Food Sustainability: Understanding How UNC Compares to other Institutions and the Gap in Vendor Continuity

Senior Capstone

University of North Carolina at Chapel Hill

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“The farm-to-institution market holds more power to benefit farmers and fisherman than any other local food market”

(Richman qtd. in Clark, 2016)

Public and private institutions hold the key to transforming the American food system. *Civil Eats*, a daily news source for critical thought about the American food system, claims farm-to-institution is the sleeping giant of local food sourcing (Clark, 2016). This power originates from the sheer volume of purchases they make in order to provide thousands of meals every day. Anna Lappé, an author and expert on food systems, said it best when she claimed, “Every time you spend money, you're casting a vote for the kind of world you want.” (Lappé, 1971).

**Current State of the American Food System: Industrialized Agriculture**

The American food system has become increasingly industrialized since the Green Revolution, when advances in agricultural technology allowed US farms to dramatically scale up production. From 1948 to 2013, overall agricultural production more than doubled, increasing 1.52% every year, on average (USDA ERS). At the same time, inputs only increased 0.05%, pointing to advances in productivity across the board (USDA ERS). Such productivity can be attributed to technological innovations; these include advanced capital equipment, fertilizers, pesticides and genetically modified crops. Although agriculture has been revolutionized in the past 60 years, the new production methods are capital intensive and have given an advantage to larger farms with greater monetary flexibility. Industrialization of food production has therefore
caused a series of declines in small family farms, which cannot compete with wealthier large-scale farms; by the end of the 1960s, the number of farmers in the United States was reduced by half (Grey, 2000). Additionally, although agriculture-related industries accounted for about 6% of the US GDP in 2014 (nearly 1 trillion dollars) and almost 10 percent of US employment (USDA ERS, 2017), the industry is largely controlled by a small number of companies. The majority of food production is now carried out by a handful of large, extremely profitable companies. For example, according to the USDA’s Economic Research Service (USDA ERS), the four largest animal slaughtering operations slaughter 85% of US beef and the four largest milk companies process 46% of the nation’s milk (2013).

Industrialization of food production in the United States has raised serious environmental, health and social concerns. To achieve the greatest efficiency, factory farms often specialize in one product; this use of “monoculture” reduces farm biodiversity, have deleterious effects on the soil and require increased use of chemical fertilizers and pesticides (Lithourgidis et al., 2011). Monoculture in livestock production is also used to increase the density of animals per area unit, which augments the concentration of waste and demands a heavier use of livestock antibiotics (MacDonald & McBride, 2009), eventually causing significant air and water pollution. This water and air pollution affects both the environment and human health, as air quality surrounding industrial farms has been linked to illness in both farm workers and nearby residents (Donham et al., 2007). Finally, the monopoly of agriculture by a powerful minority has economic and ethical impacts, as small farmers are unable to thrive economically and citizens have little say about how food is produced.

Due to the negative social, environmental and health effects of industrial agriculture,
many people in the US have turned towards what Grey has dubbed the “alternative food stream” (2000). The alternative food stream is centered around direct marketing between food producers and consumers, without major corporations acting as the middleman. Farmer’s markets, food cooperatives and community supported agriculture are all examples of alternative food streams, and small decentralized farms are most often the types of producers which participate in this alternative stream. Although the popularity of such alternatives has grown since the 1960s, there are still major economic barriers for small and medium-sized farms which are trying to compete with industrial agriculture. According to the USDA, the profitability of a farm is significantly associated with its size, and small family farms are most likely to be considered in the “critical zone” (Hoppe, 2014) which refers to a return on assets as less than 1%. The same report found that most small family farms must supplement income with off-farm and cannot subsist solely on farm profit (Hoppe, 2014). In order to allow for small and medium farms to thrive economically and to find a sustainable source of food for consumers, the alternative food stream must therefore find a larger and more reliable market for its goods than is typically found at the local farmer’s market.

If large institutions such as school systems, universities, hospitals, and prisons can be persuaded to source locally, they can make a major impact on the local economy and could create a stable market for small and medium farms. These institutions have larger food demand than individual consumers and may be able to better support local farms. According to a report written by the Union of Concerned Citizens (2015), institutions could represent a niche market for medium-sized, local farms as they create a large enough demand to provide the farm with financial stability, but not so large of a demand that the farms cannot fulfill their orders. These
medium-sized farms employ more people per acre, are more likely to purchase inputs locally, and have greater levels of biodiversity than industrialized farms. With these and other benefits in mind, non-profits and activist groups across the US have begun promoting the use of local food at institutions. Farm to Institution New England (FINE) and the Northwest Food Buyers Alliance, for example, aim to link institutions and local food producers in order to support the local economy, while providing healthy food options to people such as university students and hospital patients (Clark, 2016).

**Third Party Monitoring Systems**

With regards to universities, many campus dining systems are now trying to purchase local, fair trade and organic alternatives to serve to students. In the United States, most universities have either self-operated dining services (the university manages food purchasing for dining halls and other dining amenities), are contracted out to major food service corporations (such as Aramark, Sodexo and Bon Apetit), or use some combination of the two. Due to the wide variety of dining service structures and diverse priorities with regard to food purchasing, third party groups similar to FINE have begun specifically targeting universities to engage them in alternative food purchasing. One of the most prominent of these is the *Real Food Challenge* (RFC), a nonprofit which was formed as The Food Project twenty years ago with a mission to “build a thoughtful and productive community of youth and adults who work together to build a sustainable food system” (*Organization History*). Today, RFC has created a network of students and universities who strive to replace food purchased from industrialized farms with food which is local/community-based, ‘fair’ (fair trade), ecologically sound and/or humane -- aka “Real
Food.” Through the RFC, university campuses can commit to goals of purchasing substantial percentages of real food through their institution’s campus dining purchasing network. In the last two decades, forty universities including Northwestern University, Johns Hopkins University and UNC Chapel Hill have made commitments to purchase 20-40% real food (Participating Schools). The Real Food Calculator, a program which can be accessed by both universities who have committed to the challenge and those who have not, allows dining services to track and assess the amount of real food the university is purchasing.

Another major third party accounting system used by many universities is The Sustainability Tracking, Assessment & Rating System (STARS) established by the The Association for the Advancement of Sustainability in Higher Education (AASHE). Although the STARS system ranks universities on all aspects of sustainability, the “Food and Beverage Purchasing” and “Sustainable Dining” assessments are commonly used as a measuring stick for university dining services. AASHE STARS allows universities to compare themselves based on sustainable practices and over 800 higher education institutions use the STARS reporting tool (STARS Participants and Reports, 2017). AASHE is a particularly useful and widely-used system because it does not require any commitment to reach goals, as RFC does, but provides guidelines for sustainable food purchasing and dining services which are easily accessible to institutions. In her evaluation of campus sustainability plans, White (2014) commends the AASHE STARS program for its comprehension (specifically the breadth of sustainability categories and the inclusion of the social equity component) and finds that participation in AASHE motivated school-wide sustainability planning on campuses in the US.
UNC Food System and Real Food Challenge

This paper will assess the efforts of the University of North Carolina at Chapel Hill (UNC-CH) to become an institutional buyer of alternative or real food. The real food movement started at UNC-CH in 2007 with the formation of the student group Fair, Local, Organic (FLO) Food. In its first few years, FLO grew as a student organization and created a strong network with Carolina Dining Services (CDS) as well as numerous other stakeholders throughout campus. FLO works with CDS to “achieve and maintain a sustainable purchasing plan with regards to dining” and independently to educate the student body about food systems. Despite the progress already made by FLO, UNC-CH’s dining services were serving 10,000 meals a day, and the size and complexity of the system proved a difficult obstacle to overcome. One of FLO’s strengths as a student group was that it was “form-fitting and project-based” (Hannapel, 2016), but this eventually meant that the group needed an ally to tackle systemic food system changes at UNC; this is when FLO turned toward RFC.

FLO’s presence on campus and their already established relationships with CDS and Aramark played an important role in convincing UNC-CH to allow a group of students to begin auditing food purchases using the Real Food Calculator in 2010. A group of Real Food interns was established to carry out this task and initial results were promising -- the first semester’s audit showed that UNC already sourced 13% “real food” for the dining halls. FLO and the Real Food Interns continued to collect food purchase data and track UNC-CH’s real food progress for the following years, and were able to make suggestions of substitutions and easy gains for CDS’s real food efforts. However, despite the progress being made, FLO was met with continuous resistance from the administration to sign on to the RFC Commitment, which would commit
them to purchasing 20% real food by 2020. A combination of factors caused this hesitation among the administration, including the increased costs of real food and the fear of making a commitment that they would not be able to fulfill. In many ways, FLO and CDS had already identified and eliminated the “low hanging fruit” (Hannapel, 2016) at this point and more major changes would be necessary to increase real food purchasing. Although FLO had advocated for UNC-CH’s signing of the RFC Commitment since the campaign was launched in 2011, UNC-CH only committed to the RFC in 2016, when the university was already hovering around 20% real food.

In her assessment of UNC-CH’s sustainable dining system, Hannapel pointed out that in order to continue progress at and begin attaining the higher hanging fruit, UNC-CH would need “an approach to develop deeper relationships with producers and community members while collaborating in building resilient food systems” (2016).

This paper aims to examine UNC’s sustainable food purchasing and practices, as well as assess the current state of the university’s relationships with producers, in order to identify both the strengths and areas for improvement in the UNC-CH system. First, we will assess UNC-CH in comparison to other, similar universities and colleges in order to gain a deeper understanding of the national real food movement, as well as to provide a measure of success for the university. Second, we discuss our conversations with the producers and distributors which provide real food to UNC-CH in order to gain a two-sided understanding of those relationships and the role UNC-CH plays as an institutional buyer.
Methodology

This research seeks to create a holistic analysis in the effectiveness of UNC’s dining services’, Carolina Dining Services (CDS), sustainability purchasing. This research is multi-pronged to analyze CDS’s purchasing in the greater context of other universities and colleges while simultaneously examining various elements of CDS sustainability and vendor continuity. Students have been conducting audits of CDS purchases for the past seven years using criteria from the Real Food Challenge and utilizing the Real Food Calculator. Those semester audits remains vitally important in analyzing specific purchases and shifting to more sustainable purchases. This research seeks to analyze Carolina Dining Services’ food procurement methods to comparable universities to highlight successful practices and determine strategies to continue to progress the movement. It simultaneously seeks to assess the changes that have occurred over the past seven years and broaden the scope from the audit information.

Research Question

This research is aimed at answering the following question: How effective has Carolina Dining Services been in sustainable purchasing?

For this research, institutional purchasing is purchasing done by institutions such as universities, school systems, hospitals, corporations and prisons. As outlined earlier, institutional purchasing is a large industry and encounters different solutions than general sustainable food purchasing that an individual or single restaurant can pursue. Furthermore, sustainable food purchasing follows the Real Food Guide 2.0 definition which means that purchases that are local and community based, ecologically sound, fair, and/or humane by meeting criteria for a given
category outlined in Appendix A. Beyond the Real Food Guide 2.0, we defined sustainable purchasing to include vendor continuity. Vendor continuity is continuation of purchasing from the same vendor over several years. We included this because we believe that sustainable purchases are greatly enhanced by continued support of sustainable vendors which is only ensured through continuous purchases. Vendor continuity is essential in supporting a growing sustainable food system within North Carolina and beyond because vendors need reliable markets in order to expand (Smith, 2008).

**Research Design**

As previously stated, this research is multi-pronged that utilizes several methods to analyze Carolina Dining Services. Figure 1 outlines the multi and mixed methods approach utilized.

**Figure 1 - Methodology**

To answer the overall research question of the effectiveness of institutional sustainable purchasing by CDS multiple measurements were used. This research began with semi-structured
interviews with the mentors of the Real Food Calculator internship, Dr. Rudi Colloredo-Mansfeld and Dr. Amy Cooke and Carolina Dining Hall Executives. These interviews highlighted what information was lacking in being able to understand the effectiveness of CDS’ sustainable purchasing.

The first focus was to understand CDS in the greater context of other universities. It was apparent that there needs to be a greater understanding of what colleges and universities across the nation are doing to address sustainable purchasing to determine how effective CDS is to its peers. To measure this we utilized the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System (STARS). This reporting tool was created through the collaboration of many university and college sustainability officers to measure many elements of sustainability on campuses. This tool is discussed in greater detail below but allowed for a comparison across campuses. Furthermore, sister institutions and highly performing comparable schools were called and interviewed on their sustainable initiatives to compare to CDS and provided best practice methods to increase effectiveness of CDS. Data from universities and colleges that were contacted that also utilized the Real Food Calculator was collected to enhance overall comparisons.

The second focus is analyzing CDS’ purchases. A month's worth of CDS’ purchases are audited every semester by interns in Dr. Colloredo-Mansfeld’s and Dr. Cooke’s course. Therefore, it is fairly well understood what percent of real food is purchased by CDS. However, this data has often been highly compartmentalized, focused solely on a single month. After seven years of conducting these audits we focused on analyzing the change in purchases over time and how effective CDS has been in continually supporting sustainable vendors, the second element
of sustainable purchasing outlined with the research question. All of the audits from the past seven years were analyzed to track vendor continuity. Then vendors were contacted to conduct interviews to understand the importance or unimportance of continuity of relationships in their support of sustainable food.

**AASHE STARS**

AASHE STARS is an effective tool to compare UNC to other institutions. STARS covers a wide variety of topics on academics, engagement, operations, planning & administration, and innovation. A technical manual outlines how points are awarded for each category and based on overall points rankings are awarded to the colleges and universities. The Sustainability Office at UNC continually updates and submits to AASHE STARS utilizing data from departments across campus with the most recent submission being the 2.0 version using 2013 data resulting in the University receiving a gold rating.

This research is focused on two credits within the operation category but mainly, OP 6-Food and Beverage Purchasing. Carolina Dining Services supplies the data utilized for this credit as well as OP 7- Low Impact Dining which is not heavily analyzed within this research. OP 6 is focused on sustainable purchasing and the breakdown of criteria for this credit is outlined in Appendix B. Caroling Dining Services were only able to receive 0.56 out of 4 points for this credit. This criteria requires universities the percent of their purchases that fall within criteria outlined in Appendix B which are broken down into local and community based, ecologically sustainable, fair and humane, the same criteria of the Real Food Calculator. Universities and colleges are also required to include an inventory, list or sample of purchases. This tool, with
clear criteria, allows for a comparison of purchases that comparable universities and colleges make in regards to sustainable dining.

The top 10 universities and colleges for score in OP 6 were analyzed for their purchasing methods, sustainability criteria utilization, vendors, budget, population size and what data was included in their analysis. This results in both qualitative and quantitative data which are compared in the Results section and key findings are highlighted.

**Structured Surveys with Sustainability Officers at Dining Services**

Upon completion of comparison with other schools using AASHE STARS, it was determined that many of the high-ranking schools were not comparable to UNC in their size and/or location. Therefore, universities in the top 10 that were comparable, as well as sister institutions outlined by UNC, were researched in order to compare CDS to its’ peers. Sustainability offices at the above mentioned universities and colleges were contacted to conduct interviews with sustainability workers in dining services at the university or college. These surveys were focused on understanding how dining services, the unit of observation, operate since they vary widely in initiatives, purchasing criteria and vendor continuity. Surveys allow for more nuanced responses. The surveys tool is included in Appendix C.

Sustainability officers at universities were contacted since they are most likely aware of who would best be able to answer questions about sustainability initiative about their institution's dining services and are more dependable than using the dining services website which often uses different titles for various positions. Initial contact and arranging for an interview was made by email. The interviews all followed a heavily guided prompt outlined in Appendix C that every
researcher used and were intended to create a casual conversation. All interviews were recorded so that they could be used when transcribing interviewees answers to the survey. The results were inputted through Google Forms into a spreadsheet. The results are mostly qualitative with some categorical, quantitative results.

Real Food Calculator Audits

This research builds upon seven years of research by interns in auditing real food purchases by CDS. In the spring semester of 2016, one student within the internship analyzed the vendors we utilized each semester to track vendor continuity over the years. Using the raw data from the audits, we cross checked this research and described vendor continuity over the years that students have been auditing CDS.

Vendor Surveys

Following the results of the audit, all distributors were selected that were purchased from or continue to be purchased from to create a better understanding for what ended the relationship with CDS or allows for its continuation. It also allows for a greater understanding in how influential CDS’ purchases are to their business. The data collected is qualitative and can be utilized in understanding institutional purchasing beyond university and colleges. The survey is included in Appendix D.

The sales representatives or contact information provided by previous interns was used in contacting distributors. Initial contact was made by email and surveys were completed over the phone. Similar to the surveys conducted with other universities the interviews all followed a
heavily guided prompt outlined that every researcher used and were intended to create a casual conversation. All interviews were recorded so that they could be used when transcribing interviewees answers to the survey. The results were inputted through Google Forms into a spreadsheet.

**Sample Sets From Methodology**

**University and Colleges**

Determining comparable schools was a multi-pronged approach. Schools of a comparable size that have signed the RFC Commitment were researched as well as sister institutions which UNC determines and large public universities in close proximity to UNC, largely NC State. From this list colleges and universities of comparable undergraduate population to UNC that had the highest scores for OP 6 credit in AASHE STARS were included. Lastly, a couple of universities that the dining hall executives and our mentors identified as ideal sustainable purchasers were included in the sample as well. This is not a random sample but is instead highly tailored to UNC and schools that have methods and practices that UNC could realistically adopt moving forward. This research is not intended to be a representative sample of sustainable purchasing at college and universities and therefore a random sample is not required. Seventeen universities were contacted and fourteen universities agreed and were interviewed resulting in a 82.4% response rate. The calling list is included in Appendix E.

**Vendors**
All of the vendors that have supplied any sustainable food as defined by the Real Food Challenge criteria over the past seven years that was analyzed above were included in the sample to survey by phone. Nine vendors were contacted to set-up interviews, two agreed to be interviewed over the phone and one agreed with a tour that was organized by CDS head chef resulting in a 33.3% response rate. The calling list is included in Appendix F.

Validity in Methodology

Efforts were continually made to reduce error throughout the process. One source of error that arises when comparing CDS with other universities is the use of different standards which make direct comparisons impossible. To reconcile this difference the interviews were structured to ask specific questions about the setup of their dining system and how they monitor various aspects of sustainability to avoid blanket sustainability statements. Additionally, ranking universities based off of these interviews was not done but instead a holistic analysis of multiple aspects of sustainability were compared and key findings and trends that multiple universities utilized was reported.

University interviews were not randomly sampled to create a sampling frame that was highly specific to UNC-CH and therefore conclusions are highly specific to UNC-CH. Thus, sampling error is not a concern in this process. Additionally, concerns of systematic nonresponse are not a concern based on the high response rate.

Vendor surveys were not randomly sampled but instead all within the frame who had contact information we could find were contacted. There may be a systematic nonresponse error as vendors that no longer have a relationship with CDS had little incentive to respond.
While this data may not be directly applicable to other universities as it is highly specific to UNC-CH, we believe the results are transferrable to similar institutions.
Results and Discussion

This research hopes to assess the sustainability of purchasing of Carolina Dining Services. The results from AASHE STARS are presented first as they compare all universities on a standardized, self-reported sustainability dining measure. The top 10 schools for the OP-6 Food and Beverage Purchasing criteria are then compared to provide a better understanding of what these schools have done that has been successful. We then aim to compare UNC-CH to schools which are more comparable in size and operating methods than those that scored the highest on the OP-6 credits. This resulted in 15 interviews with various sister schools and other comparable universities. The interviews are summarized and then analyzed. Lastly, we evaluated CDS purchasing internally (not just by comparison to other universities) and analyzed vendor continuity and the distribution model utilized within CDS. All of these elements present a holistic evaluation of sustainable purchasing by CDS.

AASHE STARS

All AASHE STARS 2.0 submissions by colleges and universities in the United States were compared to determine the colleges and universities with the highest OP-6: Food and Beverage Purchasing (out of four points) and OP-7: Low Impact Dining (out of 3 points). The results are presented in Figure 2.

Figure 2- AASHE STARS (2.0) Food and Dining Credits (OP-6 & OP-7)
Based on Figure 2, there does not appear to be a relationship between the two credits that relate to dining. Furthermore, CDS (highlighted in orange) is similarly clustered at a score of 1 for Low Impact Dining (OP-7) but scores low, compared to other colleges and universities, in Food and Beverage Purchasing (OP-6). This graph demonstrates the lower scores of CDS compared to many other college and universities within the United States on a uniform assessment. The top ten college and universities for OP-6, the more relevant credit for this research, are highlighted in red. To further investigate what these college and universities are doing to receive high scores, their submissions to OP-6 are outlined in Table 1.
<table>
<thead>
<tr>
<th>School Name</th>
<th>Score Op-6</th>
<th>Score OP-7</th>
<th>Undergrad population</th>
<th>Percent of sustainable dining service foods</th>
<th>Number of present food service providers included</th>
<th>Budget</th>
<th>Example purchases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterling College (2016)</td>
<td>4.0</td>
<td>1.83</td>
<td>128</td>
<td>75</td>
<td>1/1</td>
<td>$224,860</td>
<td>Stafford Organic Creamery (organic creamery), Jocelyn &amp; Cinta’s Bake Shop (local bakery), Deep Root Organic (produce), Farm at VT Youth Conservation Corps, Vermont Soy, Apple Ledge Farm, Butterworks, Hood Milk, On-campus farm</td>
</tr>
<tr>
<td>Columbia (2015)</td>
<td>3.19</td>
<td>1</td>
<td>7,777</td>
<td>54.85</td>
<td>1/?</td>
<td>$5,692,633</td>
<td>Hindinger’s Farm, Coca Cola, Clover Farms (milk), Chobani, Cafe Spice (Indian meals to go, sandwiches), Gus Sclafani Corporation (whole tomatoes, canned tomatoes, pizza sauce), Bimmy’s Grab &amp; Go Items, Brooklyn Roasting Company, Old Maid’s Farm, Ballard’s Honey, Fresko Kosher Meals</td>
</tr>
<tr>
<td>University of North Texas (2014)</td>
<td>3.0</td>
<td>1</td>
<td>29,515</td>
<td>80</td>
<td>3/4</td>
<td>$12,696,293</td>
<td>Purchase “Regional Conventional”- conventional production in Texas, bordering states, California and Florida</td>
</tr>
<tr>
<td>University of Washington, Seattle (2015)</td>
<td>2.79</td>
<td>2.13</td>
<td>29,468</td>
<td>52.31</td>
<td>3/5</td>
<td>$12,696,293</td>
<td>Medosweet Farms (specialty food distributor)</td>
</tr>
<tr>
<td>Central Carolina Community College (2015)</td>
<td>2.53</td>
<td>1.67</td>
<td>6,461</td>
<td>63.41</td>
<td>1/1</td>
<td>$60,500</td>
<td>Local milk, cheese, meats, wine &amp; spirits, flour, honey, eggs and fruit, organic flour</td>
</tr>
<tr>
<td>Carnegie Mellon University (2015)</td>
<td>2.51</td>
<td>1</td>
<td>5,834</td>
<td>47</td>
<td></td>
<td>$12,696,293</td>
<td>SunFresh Produce, Paragon Monteverde Produce, Pittsburgh Seafood, Balesterie Produce, Marburger Dairy,</td>
</tr>
<tr>
<td>Institution</td>
<td>OP 6 Score</td>
<td>Population</td>
<td>Sustainable Purchases</td>
<td>Notes</td>
<td></td>
<td></td>
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<tr>
<td>------------------------------------------------------------</td>
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<tr>
<td>California State University, Fullerton (2015)</td>
<td>2.2</td>
<td>33,049</td>
<td>55</td>
<td>1/5</td>
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<tr>
<td>Santa Monica Seafood, Simon’s Bakery, Roger’s Poultry, Pocino Foods, Serv-Rites, Voortman’s Farm, Daniel’s Western MEat Packers, Hidden Valley Ranch Farm, Local Farms (ex. Valdivia Farms, Regier Farms, Jaime Farms)</td>
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<tr>
<td>Villanova University (2014)</td>
<td>2.09</td>
<td>6,645</td>
<td>51</td>
<td>2/4</td>
<td></td>
<td></td>
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<tr>
<td>Saint Mary’s College of California (2016)</td>
<td>2.08</td>
<td>2,958</td>
<td>39.10</td>
<td>1/1 $2,560,47 1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Local Produce</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>University at Buffalo (2015)</td>
<td>1.97</td>
<td>19,831</td>
<td>37</td>
<td>6/6 $8,750,00 0</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>University of North Carolina at Chapel Hill (2014)</td>
<td>0.56</td>
<td>18,503</td>
<td>11.80</td>
<td>6/6 $9,778,19 5</td>
<td></td>
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<tr>
<td>Freshpoint, Carolina Egg Company, Firsthand Foods, Monterey Bay Seafood</td>
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The top ten college and universities of OP 6: Food and Beverage Purchasing for AASHE STARS 2.0 are outlined above and compared to UNC-CH. Their OP 6, OP 7: Low Impact Dining score, undergraduate population size, percent of dining purchases that are sustainable which follows the Real Food criteria and is outlined in Appendix B, the number of dining facilities they
include in their results compared to the number of dining facilities on campus, their dining budget and the example purchases they include in their results.

Table 1 outlines the top 10 colleges and universities in the OP-6 credit for AASHE STARS 2.0. The top scoring college is Sterling College which purchases 75% of their food beverage sustainably, largely through local and ecologically sound purchases. With a undergraduate population of 128 students, this university is not comparable to UNC-CH because the scale of the operation is so vastly different. Columbia University ranks number two with 54% of their food and beverage purchases being sustainable; although, note the large decrease from Sterling College with 75%. Columbia University focuses on purchasing locally. Despite this, several of their local purchases would not qualify if other schools, particularly UNC-CH, were reporting. Purchases including Coca-Cola, prepared Indian meals (unless it is noted that the ingredients that the restaurant's uses are analyzed and are local), Bimmy’s Grab and Go Items and Gus Sclafani Corporations were all considered local but do not appear to meet the AASHE STARS standards. These companies and food items are most likely being included because they are processed locally but the raw ingredients are not local, a second criteria highlighted in Appendix B. Furthermore, foods with “minimal nutritional value” such as soda should not be included, thus excluding Coca-Cola. This demonstrates the limitations to self-reporting.

The third highest ranking institution is the University of North Texas with 80% of their sustainable purchases being defined as local. They redefine local -- which is defined within AASHE STARS to be originating within 250 miles of the institution -- to be all of Texas, bordering states, California and Florida. Florida is more than 600 miles away from the University of North Texas at its closest point and California is more than 1,000 miles away. By including all of Florida, Texas and California, however, University of North Texas is able to claim the vast
majority of produce grown in the United States as “local.” This once again highlights the
difficulty with self-reporting standards as well as the difficulty in comparing institutions. When
institutions vary in how they define sustainable purchasing it makes it impossible to compare
institutions’ success.

The University of Washington at Seattle purchases 52.31% of their food and beverage
sustainably through one sustainable west-coast distributor, Medosweet Farms. Their overall size
and institution is comparable to UNC and will be further compared to institutions using the
interviews below. Central Carolina Community College ranks fifth with 63.41% of purchases
being sustainable based on local purchases that are not elaborated beyond local. They are a small
institution with a heavy focus on sustainability.

Sixth is Carnegie Mellon with 47% of their purchases being considered sustainable. When analyzing their specific purchases, however, similar questions to Columbia of the
inclusion of local processors that may not be using local raw products are brought up with the
inclusion of Renaissance Deli Provision and Potomac Bakery. It is difficult to determine where
they are sourcing their ingredients but it is possible they are sourcing from within 250 miles.
California State University ranks number seven with 55% of their purchases being sustainable
largely from local producers. Agriculture is a huge part of California’s GDP and therefore is not
surprising that one could buy largely local (or within 250 miles) when located within California.

Villanova University is ranked eighth, which is interesting because a majority of their
51% sustainable purchases comes from fair trade purchases as opposed to local purchases.
Villanova therefore demonstrates an alternative method to increase sustainability. Ninth is Saint
Mary’s College of California with 39.10% sustainable purchases from local produce. Tenth is
University of Buffalo with 37% sustainable purchases and some questionable inclusion of producers such as General Mills, Battistoni, Wardynski’s and Rich Products. Further investigations would be needed to properly assess whether the raw ingredients for such producers were actually sourced within 250 miles of University of Buffalo. All of these results can be compared to the results of University of North Carolina at Chapel Hill which is included in the chart for comparison-- it does not rank eleventh within this criteria.

Between the top ten institutions there are large differences between their percentages of sustainable purchasing from 75% to 37%. This highlights that for the more than 500 institutions that reported, only about nine institutions had sustainable purchasing that constituted more than 40% of their overall dining purchases. The vast percent variation among the schools highlights potential systemic difficulties for sustainable purchasing within the food systems of small and large institutions.

**University Interviews**

In examining UNC’s sustainability standards, we found it very important to understand what other comparable universities across the country were doing as well. To frame this research, we highlighted 20 major identifiers that would allow us to compare other universities’ standards to UNC’s standards (Table 2). We conducted phone interviews with sustainable or dining service representatives at 15 selected universities. A summary of these interviews is outlined in Table 2. From these interviews, two major themes were unveiled among the conversations: dining hall operations and sustainable purchasing. Through delving deeper into
these subjects, we were better able to grasp where UNC lies as a sustainable operator and how our practices compare in relation to schools of all sizes and kinds across the country.

Table 2- Summary of Fifteen University Interviews on Sustainable Dining

<table>
<thead>
<tr>
<th></th>
<th>Public</th>
<th>Grad/Undergrad Population</th>
<th>Number of Dining Halls</th>
<th>Safety Self-Operated</th>
<th>Mix of Self-Operated and Contracted</th>
<th>Percentage of students who have meal plans</th>
<th>All or certain types of meal plans are too expensive</th>
<th>Mentioned cost as top concern for students</th>
<th>Mentioned sustainability as top concern for students</th>
<th>Students have influence in decisions</th>
<th>GPA/Grades Standards</th>
<th>Third-Party Standards</th>
<th>Length of Contract (years)</th>
<th>Accounted for Food Cost</th>
<th>Concluded RFP Process</th>
<th>ERC Commitment</th>
<th>AASHE OP-6</th>
<th>AASHE OP-7</th>
<th>Program for Vendor Management</th>
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<tr>
<td>Ohio State Univ</td>
<td>X</td>
<td>66,000</td>
<td>3</td>
<td>X</td>
<td>X</td>
<td>50-60%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>3-5</td>
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<td>2.79</td>
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<td>64,109</td>
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<td>31-50%</td>
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<td></td>
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<td></td>
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<tr>
<td>Univ of Texas at Austin</td>
<td>X</td>
<td>50,850</td>
<td>2</td>
<td>X</td>
<td>11-20%</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td>3-5</td>
<td>X</td>
<td>X</td>
<td>0.43</td>
<td>1.12</td>
<td></td>
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<tr>
<td>Univ of Minn, Twin Cities</td>
<td>X</td>
<td>45,291</td>
<td>7</td>
<td>X</td>
<td>41-50%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>3-5</td>
<td>X</td>
<td>1-3</td>
<td>X</td>
<td>0.31</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>UCLA</td>
<td>X</td>
<td>45,000</td>
<td>4</td>
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<td>41-50%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>3-5</td>
<td>X</td>
<td>1-3</td>
<td>X</td>
<td>1.19</td>
<td>1.27</td>
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<td>41,942</td>
<td>7</td>
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<td>41-50%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>3-5</td>
<td>X</td>
<td>1-3</td>
<td>X</td>
<td>0.91</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Colorado State Univ</td>
<td>X</td>
<td>39,300</td>
<td>4</td>
<td>X</td>
<td>41-50%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>6-10</td>
<td>X</td>
<td>1-3</td>
<td>X</td>
<td>1.31</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UC Berkeley</td>
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<td>27,126</td>
<td>4</td>
<td>X</td>
<td>41-50%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>6-10</td>
<td>X</td>
<td>1-3</td>
<td>X</td>
<td>0.56</td>
<td>1</td>
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<tr>
<td>CU Boulder</td>
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<td>27,000</td>
<td>3</td>
<td>X</td>
<td>21-50%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>6-10</td>
<td>X</td>
<td>1-3</td>
<td>X</td>
<td>0.28</td>
<td>1.8</td>
<td></td>
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<tr>
<td>Virginia Tech</td>
<td>X</td>
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<td>4</td>
<td>X</td>
<td>71-80%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>6-10</td>
<td>X</td>
<td>1-3</td>
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<td>0.28</td>
<td>1.8</td>
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<tr>
<td>NC State Univ</td>
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<td>24,111</td>
<td>3</td>
<td>X</td>
<td>91-100%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>1</td>
<td>X</td>
<td>3-5</td>
<td>X</td>
<td>0.28</td>
<td>1.8</td>
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<tr>
<td>UNC-CH</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>3-5</td>
<td>X</td>
<td>1-3</td>
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<tr>
<td>TCU</td>
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<td>15,391</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>3-5</td>
<td>X</td>
<td>1-3</td>
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<tr>
<td>Duke Univ</td>
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<td>91-100%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>1</td>
<td>X</td>
<td>3-5</td>
<td>X</td>
<td>0.28</td>
<td>1.8</td>
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<td></td>
<td></td>
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<tr>
<td>Johns Hopkins Univ</td>
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<td>6,300</td>
<td>2</td>
<td>X</td>
<td>51-60%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>3-5</td>
<td>X</td>
<td>1-3</td>
<td>X</td>
<td>0.28</td>
<td>1.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These universities were chosen based upon metrics such as size, public vs private, location, and agricultural programs in place as they relate and compare to UNC-Chapel Hill.

The interviews were conducted largely with public institutions that had a similar or larger undergraduate population than UNC-CH. If the question was not applicable or there was not a response than it was left blank in Table 2.

On average the universities had 2.7 dining halls. Many of the universities, 53%, are self-operated and thus had different abilities and control in purchasing compared to contracted dining services. Additionally, a majority, 80%, of the universities required meal plans for at least a portion of the undergraduates thus increasing their control and predictability for meal plans.
Students are essential to the success of a dining hall. Ten of the universities stated that cost was a top concern for students in purchasing meal plans while 8 of universities stated that sustainability was a top concern. Throughout these universities, student input was greatly utilized with 12 of universities stating that students had strong influence over decision making for the dining halls. Many universities have sustainable dining programs with the average length of the program being 5.3 years and 9 have some variation of a vendor continuity tracking program.

When considering standards, 6 universities have a university-wide set of sustainable dining standards, 4 follow system-wide standards and 8 follow third-party sustainable dining standards. When considering third-party standards, 4 of the universities have signed the RFC commitment, 6 have completed an assessment on the RFC website and 9 have an account on the RFC website. Another tracking system is AASHE STARS of which 10 of schools had filled out information for the dining credits in STARS 2.0.

It should be noted that our interviewees were largely dining service or sustainability office professionals whose responses may have been subject to varying degrees of bias. Subjects may have consciously or innocently tailored their responses in order to bolster the perceived status of their institution, and may have used their responses as a means of defense and pride for one’s own professional work.

University Comparisons: Food Sustainability Comparison

Dining Hall Operations

Within each university interviewed, three areas were emphasized in the operations of each dining hall: management style (self operation vs. contracts), types of food tracking systems
employed, and student dining requirements (compulsory meal plan vs. optional meal plan).

Within the eight solely self-operating schools and the seven contracted schools, we found varying levels of flexibility and student influence that relate to the sustainability efforts of each university.

**Self-Operating Universities**

From the interviews, we gathered various reasoning for why schools operate the way they do, whether it is size of the university, a public or private university, or where it is located. Overall, a few key takeaways were noted that better explain the differences between self-operated and contracted universities. Notably, Duke University, a self operator, has developed its own “Sustainable Procurement Targets” that can be directly obtained without meeting specific standards or prices with a contractor. These targets are highlighted through each type of food (fresh chicken, fresh turkey, fish, fresh pork, fresh meat, shell eggs, milk produce, locally produced), for which Duke has established sustainable priorities (e.g. hormone free, humanely raised, local, organic, low mercury [for fish], standards for animal welfare, increase use of ‘clean 15’, etc). Duke has established as many as three to four necessary targets for each type of food and has a goal to meet 100% of sustainable targets by 2020. While the university’s franchised operations do not have to adhere to these targets, there is an “expectation of sustainability at all eateries on Duke’s campus”. Duke’s status as a self-operator allows them to set realistic goals for their university and adjust their standards continuously without involving too many parties.
Another North Carolina school, NC State, believes that self-operation allows for more flexibility, but the sustainable targets are largely determined by student demand. The university has pointed out that there is a low demand for sustainable options in comparison to price, variety, and flavor. In response, NC State focuses on lowering costs and expanding menu options rather than solely focusing on sustainability. Another public school and self-operator, Colorado State, also emphasized how attractive flexibility is with self-operating. It was noted that there is a certain degree of limitations placed on being a public school because of the required bidding process that they have to involve themselves in with contracts. The bidding process restricts the level of variety, sustainability, and quality to that of the contractor. Self-operating allows for extended flexibility and empowers each specific university to tailor their dining operations to their standards and qualifications. However, depending on the funds and demand of the university, self-operating could impose specific restrictions and cause the program to be less competitive or less sustainable relative to universities that are in contracted agreements. This is because self-operating restricts schools to smaller contracts with smaller vendors, thus they can be more time-intensive and include a smaller variety of food items.

**Contracted Universities**

Universities that contract out dining services to companies like Aramark, Sodexo, and Bon Appetit have less control in the development of sustainable dining practices and have less access to transparent records for monitoring and evaluating these practices compared to universities that are self-operated. Students’ and administrators’ ability to initiate effective and
timely change in regards to sustainable purchasing largely relies on the relationship between the contractor and various university groups.

University of Virginia, where dining services are contracted out to Aramark, have faced major barriers to sustainable purchasing and other long term initiatives because of inadequate cooperation between contractor and university.

Maintaining decent contractor-university collaboration and transparency is mutually beneficial because it promotes long-term growth of sustainable initiatives, and improves customers satisfaction and professional security for the contractor. Ultimately, if student demands for sustainability and transparency are repeatedly rejected by contractors, it could eventually lead to the termination of the professional relationship. This point can be illustrated by Johns Hopkins University. The school dropped certain food service providers because of issues related to student-contractor cooperation. At Johns Hopkins, a campus-wide push for sustainable dining awareness and improvements was seen in 2013 after its President committed to the Real Food Challenge. A diverse array of student groups (environmental, economic, social justice, public health etc.) rallied around a campaign for improving dining sustainability. However, Aramark, their food service provider at the time, was unwilling to cooperate with student requests for sharing invoices and baseline purchasing data. When Aramark’s contract was up for renewal that same year, students requested for the administration to leave Aramark and instead sign with Bon Appetit, a food service provider with a reputation for valuing sustainability. Administrators agreed to the deal, and Bon Appetit moved into JHU (Swails-Anderson, 2014). Student groups at JHU have maintained their enthusiasm for sustainable dining initiatives but have continued to buttheads with contractors, despite shifting
over to Bon Appetit. Recently, the student group Real Food Hopkins has sought to update
to Bon Appetit. Recently, the student group Real Food Hopkins has sought to update
language in vendor contracts to ensure continuity with local and real vendors. Bon Appetit has
pushed back against these student requests and has avoided entering into long-term contracts in
order to maintain cost effectiveness.

University at North Carolina maintains a uniquely cooperative relationship with its
contractor, Aramark. This enables the university to openly work with its budget to increase
sustainability standards and have conclusive dialogue to enable more accurate reports. Through
analyzing the complexity of the distribution model and supply chain, a healthy relationship with
your primary contractor yields greater opportunities within the sustainable growth spectrum in
dining hall operations.

**Different Types of Food Tracking Systems**

Institutions are required to provide a brief description of the methodology they use to
track sustainable food and beverage purchases when reporting to AASHE. An accurate report of
sustainable food and beverage purchases is critical in determining the total amount of real food
purchases and tracking vendor continuity. The methodology used to track sustainable food and
beverage purchases varies among universities. The data collected from interviews suggests
self-operated universities are at liberty to pick a tracking system of their choice, contracted
universities are more likely to have a streamlined tracking system used at all of their facilities,
and some universities do not have a particular tracking system. Since 2010, Carolina Dining
Services, Aramark, and students have worked together to analyze food invoices and complete
vendor velocity reports to track purchases. Students who participate in this project receive
academic credit. This is used to check vendor tracking completed by Aramark. Through the
University comparison interviews we found four institutions that use a distinctly different system than CDS to track food and beverage purchases.

Virginia Tech University and University of Texas at Austin use FoodPro, a full service software application that addresses all functional areas of the food service business. Virginia Tech commented that FoodPro provides multiple features they use to make operational decisions. Such features include easy access to purchasing history with local vendors, how much food needs to be purchased at a given time, and the amount of waste they generate. University of Texas at Austin also commented on the vendor tracking feature of the software, stating it provided a way to see which vendors they use consistently. Once data is collected in FoodPro it is exported to a final Microsoft Excel Sheet.

University of California at Berkeley currently tracks its own food and beverage purchases but is looking to move to a system called EATEC, an inventory control software created by Agilysys. Agilysys claims the software benefits include: centralized purchasing capabilities for maximum cost control, automatic recording of all inventory activity, reduction of over- and under-ordering, and the ability to examine unit or concept sales, purchases, profit and loss in real time. The push for this new technology has come from largely from student interest, directors, supply chain, and vendors.

Additionally, North Carolina State University uses a Food Service software by CBORD, a leading provider of integrated technology solutions in the United States, to track expenditures and manage inventory. They use this software to assign traits to items such as organic, fair trade, and local. They also use this software to determine the amount of items being purchased.
Student Dining Requirements (Required vs. Optional Meal Plans)

Universities have the ability to require their students to purchase on-campus dining plans or give them the flexibility to have an optional meal plan. Typically, if students are required to live on campus for one year then they must also buy a meal plan during that first year or when they live on campus. This standard varies across the country and is sometimes closely related to the specific university’s dining budget. For the pool of universities that we interviewed, only 2 of the 15 schools did not require students to have a meal plan (University of Texas at Austin and NC State). The standard that the student had to meet if they were required to have a meal plan was if they lived on campus or were a first-year student, respectively. Of the reported dining budgets from AASHE, these two universities were among the lowest funded dining services.

There are operational and financial benefits in requiring a meal plan for students, namely forecasting and stronger funds. By requiring a meal plan for certain groups of students, the dining halls are better able to estimate the amount of food they need to purchase and prepare as far as years in advance. Additionally, the income received from required meal plans allows for more flexible budgeting and accuracy. While required meal plans is not always preferred by students, it is often not a huge setback for universities and is easily implemented. Optional meal plans allow students to have control over what they eat, but it leaves a lot of opportunities for missed targets for the planning staff in the dinings services offices. Overall, there are benefits and hindrances to each program and a large set of variables that universities fall under that determine which system is best for a specific institution.
Sustainable Purchasing

When discussing the various initiatives guiding sustainable food purchasing amongst the 15 universities surveyed, it became evident that most of the universities could be categorized as having adopted one of two distinct purchasing strategies. For the sake of the analysis, the strategies are distinguished as being either “systemic” or “boutique” sustainable purchasing. The systemic purchasing strategy indicates streamlined, continual sustainable purchasing of a particular product. The boutique purchasing strategy accounts for all other sporadic sustainable purchasing activity diffused throughout the university’s dining services, most often involving purchases for a singular or infrequent event.

The differentiation of purchasing strategies was not apparent in preliminary research regarding sustainable purchasing on university campuses, however throughout the interviews conducted it was found that a number of the surveyed universities approach sustainable purchasing in a relatively more piecemeal manner. This “boutique” purchasing strategy is executed primarily in the form of sustainability awareness events and highlighted features instead of a more specific, continued purchasing scheme. The purpose for adopting short-term, exploratory strategies can be attributed to a number of variables, including cost, capacity of the source, insufficient demand for prolonged purchasing strategy and lesser autonomy of sustainability-focused stakeholders in influencing purchasing decisions. UVA campus dining hosts three to four vegetarian “themed” nights every calendar year, featuring vegetarian menu items composed of organic ingredients sourced from local farms. Student groups on UVA’s campus also partner with campus dining and a community-based vendor to host single night events highlighting local and sustainable options. A disjointed relationship between Aramark,
UVA’s primary contractor, and the Sustainability Office’s Green Dining division hinders collaboration on longer-term, integrated sustainable purchasing; instead, highlighted events aim to educate students and spark consumer-driven change to UVA’s purchasing strategy. NC State also hosts two entirely local food nights each year, incorporating ingredients produced on the campus farm or sourced from local vendors. The partnership between NC State dining and the College of Agriculture, as well as a campus-wide commitment to agriculture within the state encourages these highlighted events as a way to display engagement in local, sustainable food systems. While the “boutique” system structure does effectively promote campus awareness of sustainable food systems, the scope of sporadic purchasing strategies is far too narrow to enhance the long-term sustainability of a campus food system. The impact of irregular local or “real” purchasing strategies generates negligible demand stability for vendors and therefore has no real affect on the vendor continuity variable of sustainable institutional purchasing.

Alternatively, many of the universities interviewed reflect the “systemic” sustainable purchasing strategy, a relatively more streamlined, long-term system. UNC’s purchasing strategy is best categorized within this systemic purchasing division, as the composition of its Real Food purchases has shifted from a wider array of products in lesser quantities, based off of somewhat inconsistent factors such as seasonality, to a smaller selection of products in larger quantities that can be served year round. This allows for a greater degree of assurance regarding the source of ingredients served in the dining halls, as well as provides the chefs with continued certainty regarding the consistency of the characteristics and quality of real food products. Colorado State and University Minnesota Twin Cities reflect similar systemic strategies, consistently purchasing fair trade coffee from local roasters. UC Berkeley systematically directs a substantial amount of
its sustainable purchases into a single cafe on campus, with 90% of total food served sourced from within a 250 mile radius. Similar to UNC’s streamlined purchasing of free range chicken and grass fed hamburger beef, UC Berkeley purchases entire categories of proteins such as poultry and tofu from local, sustainable vendors in order to scale purchasing in a manner that ensures consumer certainty. By employing systemic sustainable strategies, most commonly through purchasing of a select number of recurrent products, the source of supply is held constant and room for human error when distinguishing the product source once it reaches a university dining facility is eliminated.

Vendor Continuity (Other Universities)

The 15 universities were interviewed about their efforts to maintain continuous relationships with real food vendors. Overall, we found that very little was being done to ensure that long-term and continuous relationships were established with vendors, though the majority of interviewees stated that vendor continuity would be beneficial to vendors and/or universities. Some universities value vendor continuity because it helps the farmer; Johns Hopkins aims to create a community with the local producers and create stability for them via consistent purchasing and UMN Twin Cities values the farm security which vendor continuity allows. Most universities value vendor continuity because it is beneficial to the university. Virginia Tech told us it was easier and more cost effective to keep the same real food vendors than find new ones; Colorado State said that vendor continuity streamlines the purchasing process because long-term vendors are more responsive; and UW Seattle says that the pressure of working long-term with institutions encourages an improved work ethic and overall product from real food vendors.
Although vendor continuity provides a variety of benefits to both the university and the vendors, there are also a diverse set of barriers to maintaining relationships. Perhaps the most significant challenge when trying to achieve vendor continuity is maintaining clarity and agreement on cost over the course of a relationship. Whether self-operated or contracted, all universities have a dining budget and an even smaller real food budget. A balance must be found between providing real food and maintaining low meal plan costs to the students. UC Berkeley, UMN Twin Cities, CU Boulder and NC State all listed cost of real food as one of the major barriers to vendor continuity; because the budget for real food purchasing is low, universities are often compelled to switch real food vendors with lower prices to maximize their spending power. This can be especially relevant when students prioritize price of meal plan over food sustainability, as there is pressure not to raise the price in order to pay more and keep long-term vendors. Other major challenges which universities faced was finding real food vendors that could continuously meet the university’s demand, logistics such as transportation, food safety, seasonality of produce and pushback from contractor.

Few universities had systems to overcome these challenges and ensure vendor continuity. UM Ann Arbor tried to improve vendor continuity by concentrating their purchasing power on only four sustainable farms. These relationships are direct purchasing relationships (not through contractor) and aim to permit the university to maintain consistent relationships; at least one of these farms had been supplying UM for over 10 years. As a public university, Colorado State University reported that the need to put out contracts for bids was a challenge to vendor continuity. The university therefore tries to maintain vendors by tailoring contracts to specific types of bidders in an effort to buy from the same vendors under the new contracts. Johns
Hopkins may be making the most direct efforts to achieve real food vendor continuity. Historically, their contractor Bon Appetit has resisted against establishing long-term relationships in vendor contracts for the sake of cost effectiveness. A recent push in both the student group Real Food Hopkins and the administration, however, has aimed to establish language in vendor contracts that ensure continuity. Although this has not yet been accomplished, it is one of the most direct attempts to ensure vendor continuity in the universities included in this report.

**Third Party Monitoring**

Schools across the country monitor their sustainability standards through various ways, which in turn causes differing results in sustainable dining hall criteria. A vast majority of schools use RFC to gauge their sustainability aptitude, but some schools use less recognizable standards that vary from the local level to being strictly found within their university. For example, UT Austin uses a system called The Good Food Purchasing Pilot Program. This specific program “provides a metric based, flexible framework that encourages large institutions to direct their buying power toward five core values: local economies, environmental sustainability, valued workforce, animal welfare and nutrition. The Good Food Purchasing Program is the first procurement model to support these food system values in equal measure” (GoodFoodPurchasing). It is a national program that is widely recognized by both local supporters and national supporters and is a guideline followed by large institutions other than just universities. UC Berkeley uses a system called UCOP (University of California Office of the President) which are criteria that the California universities specifically choose to meet. These
standards were inspired by the Real Food Challenge criteria and dictate the types of vendors that they choose to work with; they are more likely to choose a local vendor that falls under the UCOP regulations, such as being 20% sustainable by 2020, than to choose a vendor that does not meet their standards in UCOP.

**Vendor Continuity Analysis**

In addition to speaking with other universities about their policies and attitudes towards continuous relationships with vendors, we also delved into CDS’ history of vendor continuity. In Figure 3 the presence, or lack, of relationship with real food vendors or distributors is noted for a five year time span. These connections were found and defined by the presence of a purchase in one of the semesterly audits done by RFC interns.

![Vendor Continuity Analysis](image)

Many vendors have held continuity throughout this time period, although notably in Spring 2016 there were several added and dropped. Although, some changes were a direct swap in vendor, as is the case of the change from Starbucks to Larry’s Beans coffee and Firsthand
Foods to Pate Dawson for proteins. Many of the listed vendors for which there was enough information in order to be included in figure 3 are distributors themselves. Freshpoint for example accumulates large volumes of produce from a multitude of producers. In the real food audits however, product is labeled as being acquired through Freshpoint alone without any context to the farm or producer that Freshpoint originally received the produce from. Starting in 2016 RFC interns began noting sourcing at the individual farm level which shall fill this need.

With the information available it is evident that CDS has relatively consistent ties to its large real food vendors, but there have been variations in how much CDS spends on food from each of these vendors every semester. In Figure 4 each semester’s real food amount is broken down by vendor amounts as a percentage of CDS purchases.

Figure 4- Vendor Continuity by Percent of CDS Purchases, Fall 2012-Spring 2016

Figure 4: Real food as percent of total of CDS budget, stratified by vendor. “A” indicates vendor was added, “D” indicates vendor dropped from CDS supplier list at beginning of semester. Vendors further
categorized by product type: dairy, meats and seafood, produce, coffee and teas, and grocery. Spring 2013 omitted for lack of data.

CDS continued to purchase from Sysco from Fall 2015 to Spring 2016, and therefore there was no change in continuity, but there was an increase in total purchases from Sysco that led to an overall increased percentage of real food with chicken purchasing going through Sysco for that month. This demonstrates that there is variation in the amount of actual CDS support for each vendor over time beyond a simple relationship.

A few of these vendors were able to be interviewed for context surrounding their CDS relationship change status. Sea2Table, a local seafood distributor, sold to CDS through Spring 2016 as shown in Figure 3. However, CDS dropped Sea2Table very soon afterwards in a manner which they described as unexpected and without any reason given. Tropical Nut and Fruit Company indicated that while they are no longer selling directly to CDS as of Spring 2014, they sell product to Aramark through which UNC now acquires their products.

The complexity of institutional food distribution systems can be attributed to a complex and asymmetrical supply chain. This is outlined in Figure 5.
The complex relationships between farms, brokers, distributors, contractors and UNC are outlined above. Current real food purchases are included.

CDS works directly with Aramark, who provides top to bottom food services, giving Carolina access to a massive pool of food options. Aramark has a network of contractors, including Sysco, who work with either subsidiary companies. The subsidiaries work directly with actual farms and set quantity and price options based on both the farmer’s needs and Sysco’s demand for that product. With Tropical Nut and Fruit, and likely several other companies, they actually have an additional step where independent brokers act as liaisons.
between the farm and the company. Each distributor has a specific method of sourcing food, which makes it difficult to research and analyze the details behind each process. The complexity of the web makes it tracking down the actual producers a painstaking ordeal which requires approval from multiple levels of authority. If we wanted to figure out who farmed a tomato, for example, you would have to contact Sysco, who would direct you to another subsidiary, who could direct you to a broker, who may or may not be willing to share that information about the tomato farmer. The human element of farming is diluted throughout the supply chain network, as each proximate level of communication is only concerned with who they're speaking with, rather than who produced the food. This is certainly not an attempt to vilify the distribution network, but more showcasing some of the consequences of food industrialization and institutional demand. UNC has little leverage to directly support continuous relationships with sustainable farmers at this time, but could work with Aramark to start a more coherent conversation. In order to maintain important vendor relationships, each portion of the supply chain must commit to putting sustainable purchasing at the core of their initiatives.
Conclusion: Where UNC Stands

UNC maintains a very respectable commitment to sustainable purchasing since Chancellor Folt agreed to sourcing 20% of dining hall food items from real food sources. While some of our neighboring institutions may promote local food initiatives through heavily publicized boutique meal events, UNC actually meets and even exceeds the 20% threshold level by innovative buying methods including bulk purchasing all beef from sustainable livestock sources.

Recommendations

Events

UNC should seek to empower local farmers through both “local feature” boutique events and through bulk item purchase. From our interactions with Scott Weir and the Ram’s Dining Hall staff, it is apparent that students enjoy knowing that their food is sustainable, but it was not highlighted as a priority. In order to further promote our initiatives and engage the student body, UNC should consider a single meal or multi day event that features food grown exclusively within 50 miles of campus. This showcase program could co-exist with our existing 20% commitment, and while it may be greenwashing relative to our actual commitment to sustainability, it will stimulate conversation and awareness within the student body. Greater education on positive effects of sustainability will ideally lead to a larger portion of the CDS budget dedicated to real food. Another way to increase student interest in local farms would be to present “farmer profiles” on posters in Lenoir Dining Hall. The posters could serve to introduce the farmers behind our food to UNC students, humanizing food in a historically industrialized process. The local farm showcase could develop into an event where the farmers could come and
interact with students, the very same students who would have casually read over their profiles while browsing Lenoir - such an interaction would cast ripple effects that would massive increase student engagement in sustainability discussion.

Food Tracking Systems

CDS currently utilizes Microsoft Excel to track real food purchases and analyze expenditures. The data collected for the last seven semesters are represented in spreadsheets that are not uniform. Each model possesses qualities that make the spreadsheet more or less easy to analyze its content. After reviewing the data collected for each semester, we concluded the Fall 2012 spreadsheet uses the best layout to analyze data. However, the data we have for 2016 includes information on specific farms, which is very useful for analyzing vendor continuity at the farm level. A combination of both spreadsheet models should be used in the future, especially by the Real Food Challenge interns.

Another considerable option to improve food tracking at UNC is investing in a food tracking software system. Universities across the nation are turning to these systems to track dining hall expenditures. These systems are preferred for long-term tracking and reporting continuity across several regional and national universities.

Vendor Continuity

Lastly, in order to better assess vendor continuity at the farm level, RFC Interns should continue to track products purchased from individual farms every semester. If this was maintained as a task for every set of interns, CDS would quickly gain insight into the patterns of
farm scale vendor continuity. With this knowledge, UNC would be able to best focus its efforts on supporting the local economy with its large institutional purchasing power, all while supplying the university with fair, local, humane, and ecologically sound foods.
Bibliography


and how to evaluate?, International Journal of Sustainability in Higher Education, Vol. 15
Issue: 2, pp.228-241, doi: 10.1108/IJSHE-08-2012-0075

Retrieved from: https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/8452/AndersonMP.pdf?sequence=1


# Appendix A - Real Food Guide 2.0

## Local & Community Based

These foods can be traced to nearby farms, ranches, boats and businesses that are locally owned and operated. Supporting small and mid-size food businesses challenges trends towards consolidation in the food industry and supports local economies.

## Fair

Individuals involved in food production work in safe and fair conditions, receive fair compensation, are ensured the right to organize and the right to a grievance process, and have equal opportunity for employment.

## Ecologically Sound

Farms, ranches, boats, and other operations involved with food production practice environmental stewardship that conserves biodiversity and ecosystem resilience and preserves natural resources, including energy, wildlife, water, air, and soil. Production practices should minimize toxic substances, direct and indirect greenhouse gas emissions, natural resource depletion, and environmental degradation.

## Humane

Animals can express natural behavior in a low-stress environment and are raised with no added hormones or non-therapeutic antibiotics.

## Green Light: Products meeting these criteria or certifications qualify as Real Food and best represent the standard

### Single-Ingredient Products:

A product must meet ALL the following criteria:

- **Ownership:** Producer must be a private or cooperatively owned entity. (Wild-caught Seafood must come from owner-operated boats)
- **Size:**
  - **Produce:** Individual farm must gross $3 million/year or less
  - Meat, Poultry, Eggs, Dairy, Seafood, Grocers: Company must gross $10 million/year or less
- **Distance:** All production, processing, and distribution facilities must be within a 250 mile radius of the institution. (This radius is extended to 500 miles for Meat)

### Single-Ingredient Products (Exceptional):

100% of the products must meet the criteria for Ownership, Size and Distance

<table>
<thead>
<tr>
<th><strong>International Products:</strong></th>
<th><strong>Local Products:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Eat Local Fair Trade Certified</td>
<td>- Eat Local Fair Trade Certified</td>
</tr>
<tr>
<td>- Fair Trade North America (Fair Trade International)</td>
<td>- Fair Trade Certified &amp; USDA Organic Certified</td>
</tr>
<tr>
<td>- Fair Trade Certified &amp; USDA Organic Certified</td>
<td>- Fair Trade Certified &amp; USDA Organic Certified</td>
</tr>
<tr>
<td>- Fair Trade Certified &amp; USDA Organic Certified</td>
<td>- Fair Trade Certified &amp; USDA Organic Certified</td>
</tr>
<tr>
<td>- Fair Trade Certified &amp; USDA Organic Certified</td>
<td>- Fair Trade Certified &amp; USDA Organic Certified</td>
</tr>
</tbody>
</table>

### Domestic Products:

- Equitable Food Initiative (EFI)
- Food Justice Certified by Agricultural Justice Project

### Worker Driven Social Responsibility Programs**

- Fair Food Program by the Coalition of Immokalee Workers
- MBK with Dignity by Migrant Justice

### Coffee Only:

- Bird Friendly by Smithsonian

### Produce Only:

- Produce grown in a farm or garden at the institution, in which the researcher can confirm the use of organic practices

### All Products:

- American Humane Certified (Free Range) (eggs-layers only)
- Animal Welfare Approved/Certified AVEA by A Greener World
- AWA Grassfed by A Greener World
- Biodynamic Certified by Demeter
- Certified Humane by Humane Farm Animal Care (all species except cows)
- Global Animal Partnership (gaps 4+5)
- Pennsylvania Certified Organic 100% Graded by USDA
- Rainforest Alliance Certified
Yellow Light: Products meeting these criteria or certifications qualify as Real Food but do not represent the fullest expression of the standard

<table>
<thead>
<tr>
<th>Multi-Ingredient Products:</th>
<th>A product must meet ONE of the following criteria:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(e.g. Baked Goods)</td>
<td>For multi-ingredient products:</td>
</tr>
<tr>
<td>A. Ownership: Company must be a privately or cooperatively owned enterprise</td>
<td></td>
</tr>
<tr>
<td>B. Size: Company must gross $50 million/year or less</td>
<td></td>
</tr>
<tr>
<td>C. Distance: All processing and distribution facilities must be within a 250 mile radius of the institution.</td>
<td></td>
</tr>
<tr>
<td>At least half (50%) of the ingredients must come from farms meeting ALL the following criteria:</td>
<td></td>
</tr>
<tr>
<td>A. Ownership: Company must be a privately or cooperatively owned enterprise</td>
<td></td>
</tr>
<tr>
<td>B. Size:</td>
<td></td>
</tr>
<tr>
<td>- Producers: Individual farms must gross $5 million/year or less</td>
<td></td>
</tr>
<tr>
<td>- All other ingredients: Company must gross $30 million/year or less</td>
<td></td>
</tr>
<tr>
<td>C. Distance: All production facilities must be within a 250 mile radius of the institution</td>
<td></td>
</tr>
<tr>
<td>Single-Ingredient Products (Aggregated):</td>
<td></td>
</tr>
<tr>
<td>At least three-quarters (75%) of the product (by volume) must meet Green Light criteria for Ownership, Size and Distance</td>
<td></td>
</tr>
</tbody>
</table>

A product must be certified by ONE of the following approved certifications:

- Certified Sustainable Grown
- Fair Trade USA Certified
- LEAF (Linking Environment and Farming)
- Protected Honesty Certified
- USDA Transitional Organic Standard

Multi-ingredient products:

- At least half (50%) of the ingredients meet the Green-Light criteria

Seafood (wild-caught only):

- Marine Stewardship Council (MSC) Blue Eco-Label paired with the MSC Chain of Custody Certification
- Monterey Bay Aquarium Seafood Watch Guide “Best Choices” (Regional Guide or Buyer’s Guide)

DISQUALIFICATIONS: Products containing disqualifying characteristics cannot count as Real Food in any category

- Inhumane Human Rights Violations: Producers have been found guilty of criminal charges of forced labor within the previous 10 years.
- Labor Violations: Producer is known to have been found guilty of or has been cited for a case relating to a serious, repeat or willful Occupational Safety and Health Administration (OSHA), National Labor Relations Board (NLRA), or Fair Labor Standards Act (FLSA) violation within the last 3 years. They will be disqualified unless the producer has addressed these violations by: 1) Making the workers whole, 2) Paying any fines and 3) Developing a written policy preventing future violations. In the case of wage theft and/or worker injury, a producer is disqualified for 3 years regardless of any steps they have taken to address the violation.
- Concentrated Animal Feeding Operations (CAFOs): Producer is a Concentrated Animal Feeding Operation (CAFO) |
- Genetically Modified Organisms (GMOs): Products made with genetically engineered ingredients (including corn, soy, rapeseed, beet sugar, papayas and summer squash) and their derivatives. Unless these ingredients are used in trace amounts or the product carries a certification that precludes the presence of GMOs (Non-GMO Project Verified or any of the certifications that qualify as Ecologically Sound)
- Ultra-Processed Foods: Products made with the following ingredients: Aspartame; Imitated hydroxyisole (BHA), Imitated hydroxyisole (BHT); Caramel coloring; Partially hydrogenated oils (trans-fat); Potassium bromate; Propyl gallate; R509A/R517; Saccharine; Sodium nitrate added; Sodium nitrite added; Dyes: Red #3, Red #40, Yellow #5, Yellow #6 |

*Worker-Driver Social Responsibility Programs are exempt from Disqualifiers, and can count as Real Food even if they have a disqualifying characteristic.*
Appendix B- OP 6: Food and Beverage Purchasing from AASHE STARS 2.0 Technical Manual

OP 6: Food and Beverage Purchasing

4 points available

A. Credit Rationale
This credit recognizes institutions that are supporting sustainable food systems through their food and beverage purchases. Institutions can do this by prioritizing the purchase of sustainably produced food and beverage items. These actions reduce the social and environmental impacts of food production and help foster robust local economies and food security; improved conditions for farm workers; healthier animals, soils and streams; and secure livelihoods for farmers.

B. Criteria
Part 1
Institution’s dining services purchase food and beverages that meet at least one of the following criteria:

- Local and community-based
And/or
- Third party verified to be ecologically sound, fair and/or humane
And/or

Food and beverage purchases that meet both criteria listed above (e.g. local community-based products that are Certified Organic) should not be double-counted.

Local community-based products:

- Are sourced from local community-based producers (directly or through distributors)
- Contain raw ingredients (excluding water) that are third party verified and/or locally harvested and produced (e.g. bread made with Organic flour or local honey) and
- Exclude products from Concentrated Animal Feeding Operations (CAFOs), products that have minimal nutritional value (e.g. soda, chewing gum, candies made predominantly from sweeteners), and products from producers that have been convicted of one or more labor law violations within the previous three years

Products that are not local and community-based must be third party verified to count. Recognized third party standards and certifications for food and beverages are outlined in the following table. Institutions located outside the U.S. and Canada may use additional third party certifications to identify ecologically sound, fair and humane products, provided the certifications are reported in “Notes about this submission”.

STARS 2.0 Technical Manual 144 OP | Dining Services
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Recognized Standards and Certifications</th>
</tr>
</thead>
</table>
| Ecologically Sound| • Canada Organic Biologique certified  
                    • Certified Bird Friendly by the Smithsonian Migratory Bird Center (coffee)  
                    • Certified Local Sustainable (Local Food Plus)  
                    • Certified Organic by an IFQAM-endorsed standard  
                    • Demeter Certified Biodynamic  
                    • European Union (EU) organic logo  
                    • Food Alliance Certified  
                    • Marine Stewardship Council Blue Ecolabel  
                    • Monterey Bay Aquarium Seafood Watch "Best Choices"  
                    • Protected Harvest Certified  
                    • Rainforest Alliance Certified  
                    • USDA Certified Organic |
| Fair              | • Ecocert Fair Trade (EFT)  
                    • Fair Food Standards Council (U.S. tomatoes)  
                    • Fair for Life and other IMO certifications  
                    • Fairtrade (Fairtrade International/FLO and its members, e.g. Fairtrade Canada and Fairtrade America)  
                    • Fair Trade (Fair Trade USA)  
                    • FairWild Certified  
                    • Food Justice Certified (Agricultural Justice Project)  
                    • Small Producers' Symbol (FUNDEPPO) |
| Humane            | • AGA Grassfed (beef)  
                    • American Humane Certified  
                    • Animal Welfare Approved  
                    • Certified Humane Raised and Handled (Humane Animal Farm Care)  
                    • Global Animal Partnership Certified (Steps 3-5+ only) |

Part 1 of this credit includes food and beverage purchases for on-campus dining operations and catering services operated by the institution or the institution's primary dining services contractor (e.g. Aramark, Bon Appétit Management Company, Chartwells, Sodexo). On-site franchises, convenience stores, vending services, and concessions are excluded from Part 1.

Part 2
Institution's on-site franchises, convenience stores, vending services, and/or concessions purchase food and beverages that are third party verified and/or locally sourced (i.e. meet the criteria outlined in Part 1).
C. Applicability
This credit applies to all institutions that have on-campus dining services operated by the institution or the institution's primary on-site contractor.

D. Scoring
Each part is scored independently.

**Part 1**
Institutions earn the maximum of 3 points available for Part 1 of this credit when a combined total of 75 percent or more of dining services food and beverage purchases are third party verified and/or sourced from local, community-based producers. Incremental points are awarded based on the percentage of food and beverage expenditures devoted to third party verified and locally sourced products. For example, an institution with third party verified and locally sourced purchases that account for 50 percent of its total food and beverage expenditures would earn 2 points (⅔ of the points available for Part 1 of this credit). Points earned are calculated according to the following table:

| Factor | Multiply | Percentage of Dining Services Food and Beverage Expenditures That Are Third Party Verified and/or Local and Community-Based (0-100) | Equals | Total Points Earned for Part 1
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.04</td>
<td>×</td>
<td></td>
<td></td>
<td>(Up to 3 available)</td>
</tr>
</tbody>
</table>

Points will be calculated automatically when data are entered in the STARS online Reporting Tool.
Scoring Example: Food and Beverage Purchasing (Part 1)

Example College spent $10 million on food and beverages during the past year. Of those purchases, $0.6 million was spent on third party verified food and beverages. An additional $0.4 million was spent on local, community-based products that were not third party verified. Total expenditures on sustainable food and beverages = $0.6 million + $0.4 million = $1.0 million. Therefore, the percentage of food and beverages expenditures that are sustainable = $1.0 million + $10.0 million = 10%.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Multiply</th>
<th>Percentage of Dining Services Food and Beverages Expenditures That Are Third Party Verified and/or Local and Community-Based (0-100)</th>
<th>Equals</th>
<th>Total Points Earned for Part 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.04</td>
<td></td>
<td>10</td>
<td>=</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Part 2

An institution earns the maximum of 1 point available for Part 2 of this credit when 75 percent of the food and beverage purchases of on-site franchises, convenience stores, vending services, and concessions are third party verified and/or locally sourced (i.e. meet the criteria outlined in Part 1). Incremental points are awarded based on the percentage of food and beverage expenditures devoted to third party verified and locally sourced products. For example, an institution with on-site franchises, convenience stores, vending services, and/or concessions for which 50 percent of total food and beverage purchases are third party verified and locally sourced would earn 0.67 points (75% of the points available for Part 2 this credit).

Enter values as indicated below to calculate points earned for Part 2 of this credit

Points will be calculated automatically when data are entered in the STARS online Reporting Tool

<table>
<thead>
<tr>
<th>Factor</th>
<th>Multiply</th>
<th>Percentage of On-Site Franchise, Convenience Store, Vending Services, and Concessions Food and Beverage Expenditures That Are Third Party Verified and/or Local and Community-Based (0-100)</th>
<th>Equals</th>
<th>Total Points Earned for Part 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0133</td>
<td></td>
<td>___________</td>
<td>=</td>
<td>(Up to 1 available)</td>
</tr>
</tbody>
</table>
E. Reporting Fields

Required

- Percentage of dining services food and beverage expenditures that are local and community-based and/or third party verified (0-100)
- An indication of whether the institution’s on-site franchises, convenience stores, vending services, or concessions purchase food and beverages that are local and community-based and/or third party verified
- An affirmation that the submitted information is accurate to the best of a responsible party’s knowledge and contact information for the responsible party. The responsible party should be a staff member, faculty member, or administrator who can respond to questions regarding the data once submitted and available to the public.

Conditional

Required if the institution’s food and beverage purchases include products that are local and community-based and/or third party verified:

- An inventory, list or sample of sustainable food and beverage purchases (text or upload)
- A brief description of the sustainable food and beverage purchasing program
- A brief description of the methodology used to track/inventory sustainable food and beverage purchases

Required if the institution’s on-site franchise, convenience store, vending machine, or concessions food and beverage purchases include products that are local and community-based and/or third party verified:

- Percentage of on-site franchise, convenience store, vending services, and concessions food and beverage purchases that are local and community-based and/or third party verified (0-100)
- An inventory, list or sample of on-site franchise, convenience store, vending machine, and/or concessions food and beverage purchases that are sustainably produced (text or upload)

Optional

- Total annual food and beverage expenditures (US/Canadian Dollars) (Include all campus food service providers for which data is available)
- Annual food and beverage expenditures that are local and community-based and/or third party verified (US/Canadian Dollars) (Include all campus food service providers for which data is available)
- An indication of which of the following food service providers are present on campus and included in the total food and beverage expenditure figures:
  - Dining operations and catering services operated by the institution
○ Dining operations and catering services operated by a contractor
○ Franchises
○ Convenience stores
○ Vending services
○ Concessions
□ An indication of whether the institution has achieved the following:
  • Fair Trade Campus, College or University status
  • Certification under the Green Seal Standard for Restaurants and Food Services (GS-46)
  • Marine Stewardship Council (MSC) certification
  • Signatory of the Real Food Campus Commitment (U.S.)
□ A brief description of other sustainable restaurant and food service standards that the institution's dining services operations are certified under
□ The website URL where information about the institution's sustainable food and beverage purchasing efforts is available
□ Notes about the submission

F. Measurement

Timeframe
Report the most recent data available.

Sampling and Data Standards
Institutions may choose to track food and beverage purchases for a 12-month consecutive period or use representative samples. When using samples, institutions should accommodate seasonal and other variations in sustainable food and beverage availability and purchasing.

Institutions whose students are running the Real Food Calculator may elect to report products identified as "Real Food A" and/or "Real Food B" in lieu of the criteria outlined above.

Institutions that find it impractical to separate the purchases of on-site franchises, convenience stores, vending services, and concessions from those of its other dining operations (e.g., an institution with a single contractor operating all food services on campus) may report the overall percentage of campus food and beverage purchases that are sustainably produced for both parts of this credit as long as expenditures on sustainably produced food and beverages and total food and beverage expenditures are counted in the same way. An institution that elects to report in this manner should document the rationale for doing so and methodology used in "Notes about this submission".
Appendix C- Structured Surveys with Sustainability Officers at Dining Services Tool

University Comparison Interviews

"Hi, my name is ______ and I am a student at UNC-CH. I am part of a group of students that is researching sustainable dining initiatives, specifically sustainable purchasing, of universities that are comparable to UNC-CH in an effort to improve the sustainable dining practices here at UNC. (Since you utilizing the Real Food Calculator/ AASHE Standards and/or are considered a peer institute to UNC we felt it would be highly beneficial to hear what ______ is doing.) Would you be willing to have a short discussion with me about the dining system at ______?

May I record this conversation, so that I can accurately document and organize your responses for my research?"

1. University Name

__________________________________________________________________________

2. Public or Private
   Mark only one oval.
   ○ Public
   ○ Private
   ○ Option 3

3. Undergraduate Population

__________________________________________________________________________

4. Contact Name

__________________________________________________________________________

5. Contact Title

__________________________________________________________________________

6. Contact Phone and Email

__________________________________________________________________________

7. I first want to briefly understand how dining services are organized on campus (Check the spreadsheet). What are the dining facilities that students have access to?
   Check all that apply.
   ○ Large dining halls
   ○ Restaurants
   ○ Cafes
   ○ Convenient Stores
   ○ Other:

__________________________________________________________________________
8. Elaboration

9. How many large dining halls are there?
   *Mark only one oval.*
   - [ ] 1
   - [ ] 2
   - [ ] 3
   - [ ] 4
   - [ ] 5
   - [ ] 6
   - [ ] 7
   - [ ] 8
   - [ ] 9
   - [ ] 10
   - [ ] 10+

10. Are the dining halls all-you-can eat, by weight, or one meal?
    *Mark only one oval.*
    - [ ] All-You-can eat
    - [ ] By Weight
    - [ ] One Meal
    - [ ] Other

11. Continuing with dining-service is set-up- do you contract dining services to an auxiliary food-service provider or provider, self-operate or utilize both in your dining-service?
    *Check all that apply.*
    - [ ] Aramark
    - [ ] Sodexo
    - [ ] Bon Apeit
    - [ ] Chartwells
    - [ ] Self-operate
    - [ ] Other: ____________________________

12. If contracted, when were dining services contracted out to another organization?
    *Example: December 15, 2012*
13. When did you agree to your most recent contract?

Example: December 15, 2012

14. What types of meal plans are offered to students
   Check all that apply.
   □ Block
   □ Unlimited
   □ Other: ____________________________

15. Elaborate

   ___________________________________
   ___________________________________
   ___________________________________

16. What is the most popular meal plan?
   ___________________________________

17. What proportion of university students have meal plans
   Mark only one oval.
   □ 0-10%
   □ 11-20%
   □ 21-30%
   □ 31-40%
   □ 41-50%
   □ 51-60%
   □ 61-70%
   □ 71-80%
   □ 81-90%
   □ 91-100%

18. Are any students required to have meal plans?
   Mark only one oval.
   □ Yes
   □ No
19. Elaborate

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

20. Have the structure of meal plans changed over the last 10 years?
    Mark only one oval.
    □ Yes
    □ No

21. Elaborate

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

22. What aspect of _______ dining are students most concerned about?
    Check all that apply.
    □ Cost
    □ Menu Variety
    □ Time Open
    □ Sustainability
    □ Other: ________________________________

23. Considering sustainability initiatives, can you tell me about any major University standards for sustainable purchasing?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
24. (For our purposes of organizing above standards)
   Check all that apply.
   [ ] Third-party standards
   [ ] System-wide standards
   [ ] University-wide standards
   [ ] Other: ____________________________

25. How long has ________ dining been engaged in these initiatives?
    ____________________________

26. (For organizing above)
   Mark only one oval.
   [ ] Less than 1 year
   [ ] 1-2 years
   [ ] 2-3 years
   [ ] 3-5 years
   [ ] 5-10 years
   [ ] 10-20 years

27. How is data concerning the sustainable practices/ or food tracking collected, managed and reported

   ____________________________
   ____________________________
   ____________________________
   ____________________________
   ____________________________

28. (For organizing above question)
   Check all that apply.
   [ ] Excel
   [ ] In-house system specific to school
   [ ] Contract specific system
   [ ] Third-party system
29. Which stakeholders (e.g. students, dining professionals, vendors, university administrators, etc.) are responsible for developing and implementing these initiatives?  
Check all that apply:

☐ Students  
☐ Dining Professionals  
☐ Vendors  
☐ University Administration  
☐ Other: ____________________________

30. Elaboration  

________________________________________________________________
________________________________________________________________
________________________________________________________________

31. How much influence do university students have in the development of sustainable dining initiatives?  
Mark only one oval.

☐ Very Insignificant  
☐ Insignificant  
☐ Neutral  
☐ Significant  
☐ Very Significant  
☐ Not sure

32. How much influence do university administrations have in the development of sustainable dining initiatives?  
Mark only one oval.

☐ Very Insignificant  
☐ Insignificant  
☐ Neutral  
☐ Significant  
☐ Very Significant  
☐ Not sure

33. Does _______ dining strive to maintain continuous and long-lasting relationships with vendors (specifically local or sustainable vendors)?  
Mark only one oval.

☐ Yes  
☐ No  
☐ Maybe
34. Elaboration

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

35. If yes: What is appealing about these long-lasting partnerships with vendors?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

36. If no: What problems have hindered your ability or drive to maintain vendor continuity?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

37. Does ____________ dining anticipate implementing additional sustainable dining initiatives in the future?

Mark only one oval.

☐ Yes
☐ No
☐ Maybe

38. Elaboration

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
39. Any other university-specific questions related to information we gathered on “University Comparison” spreadsheet. (Example: How does the Agriculture Department influence university dining?)

40. Are there any other sustainable dining initiatives at your school that you are proud of?

“Thank you so much for your information and time!”
Appendix D- Vendor Continuity Survey Tool

Distributor Questionnaire

Hi, my name is __________. I am a student at UNC-CH researching vendor continuity and sustainability practices across institutions. I was wondering if you have a moment to talk to me about your relationship with institutions and specifically UNC?

1. May I record the conversation for accuracy and research purposes to ensure the integrity of our discussion?
   Mark only one oval.
   - Yes
   - No

2. Name of distributor

3. Name of contact at distributor

4. Contact Information

5. Name of Interviewer

6. I first want to understand how your business is organized. Could you describe the categories of organization you sell to such as universities, individuals, restaurants, other institutions or larger distributors?

   ________________________________
   ________________________________
   ________________________________
7. (For organizing above question)  
Mark only one oval.

- Universities
- Individuals
- Restaurants
- Other Institutions
- Larger distributors
- Other: ____________________________

8. Could you describe what your primary purpose is?
   __________________________________
   __________________________________
   __________________________________
   __________________________________

9. What products do you aggregate and distribute?
   __________________________________
   __________________________________
   __________________________________
   __________________________________

10. Who and what types of farms and/or producers are you purchasing from?
    __________________________________
    __________________________________
    __________________________________
    __________________________________

11. How are relationships made with farmers/ producers?
    __________________________________
    __________________________________
    __________________________________
    __________________________________
12. Are there criteria, certifications or practices that the farm must possess to enter a relationship with you?

__________________________________________________________

__________________________________________________________

__________________________________________________________

13. Is there an application process for farmers/producers?

__________________________________________________________

__________________________________________________________

__________________________________________________________

14. How do new farmers/producers discover your organization?

__________________________________________________________

__________________________________________________________

__________________________________________________________

15. Is there a minimum size for farmers/producers?

__________________________________________________________

__________________________________________________________

__________________________________________________________

16. Are there geographic limitations for farmers/producers?

__________________________________________________________

__________________________________________________________

__________________________________________________________
17. Broadly, what do contracts with farmers/ producers look like? Are they defined by length of time, amount of product or other factors?

18. Ultimately who decides to continue relationships with farms/producers? Who renews contracts?

19. What is turnover rate/ratio of farms/producers?

20. Now, I would like to focus more on institutional buying which I define as large businesses, universities, school systems, hospitals, prisons and the like. What percent of your sales come from institutional buying?

21. How do you decide which institutions, to work with? For example, what are your initial criteria?
22. In the past and currently, who seeks whom in contracts with institutions?

23. What do you believe are the biggest setbacks within the institutional buying system?

24. What needs to be done to fix this flaw?

25. Could you describe your relationship with Carolina Dining Services such as how the relationship began, years working together, significance of their business, ease in communication?

26. What factors have motivated your continuous relationship with UNC-CH?
27. What set-backs have you experienced in working with UNC-CH, Aramark or institutions in general?


Thank you so much! Can I contact you if I have future questions?
## APPENDIX E- Contact for University

<table>
<thead>
<tr>
<th>University</th>
<th>Contact Person</th>
<th>Contact Position</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohio State University</td>
<td>Tom Reeves via Kate Bartter</td>
<td>Director of Energy Management and Sustainability at Office of Student Life</td>
<td>Y</td>
</tr>
<tr>
<td>UMN Twin Cities</td>
<td>Alyssa Lundberg</td>
<td>UMN Aramark Rep</td>
<td>Y</td>
</tr>
<tr>
<td>UM Ann Arbor</td>
<td>Barbara Hagan</td>
<td>Office of Sustainability</td>
<td>Y</td>
</tr>
<tr>
<td>Johns Hopkins</td>
<td>Clarissa Chen</td>
<td>Purchasing Chair Real Food Hopkins (Student)</td>
<td>Y</td>
</tr>
<tr>
<td>Johns Hopkins</td>
<td>Bill Connor</td>
<td>Director of Campus Dining Department</td>
<td>Y</td>
</tr>
<tr>
<td>UCLA</td>
<td>Emma Sorrel</td>
<td>Sustainability Manager of Housing and Hospitality</td>
<td>Y</td>
</tr>
<tr>
<td>CU Boulder</td>
<td>Paule Houle via Peter Newton via Sharon Collinge</td>
<td>Director of Campus Dining</td>
<td>Y</td>
</tr>
<tr>
<td>FGCU</td>
<td>Andrea Muench via Peter Blaze Corcoran</td>
<td>Center for Environmental and Sustainability Education</td>
<td>N</td>
</tr>
<tr>
<td>NYU</td>
<td>Generic Email</td>
<td>Sustainability Office</td>
<td>N</td>
</tr>
<tr>
<td>UW - Seattle</td>
<td>Kara Carlson</td>
<td>Purchasing and Project Specialist -</td>
<td>Y</td>
</tr>
<tr>
<td>Institution</td>
<td>Name</td>
<td>Position</td>
<td>Housing &amp; Food Services</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>University of Pittsburgh</td>
<td>Nick Goodfellow</td>
<td>Sustainability Coordinator - Pitt Dining by Sodexo</td>
<td>N</td>
</tr>
<tr>
<td>UT Austin</td>
<td>Jim Walker</td>
<td>Director of Sustainability</td>
<td>Y</td>
</tr>
<tr>
<td>UT Austin</td>
<td>Neil Kaufman</td>
<td>Sustainability Coordinator - Division of Housing and Food Service</td>
<td>Y</td>
</tr>
<tr>
<td>NC State</td>
<td>Chris Dunham</td>
<td>Nutrition and Sustainability Specialist</td>
<td>Y</td>
</tr>
<tr>
<td>NC State</td>
<td>Carla</td>
<td>replied to <a href="mailto:sustainability@ncsu.edu">sustainability@ncsu.edu</a></td>
<td>Y</td>
</tr>
<tr>
<td>Duke</td>
<td>Rebecca Hoeffler</td>
<td>Program Coordinator, Sustainable Duke</td>
<td>Y</td>
</tr>
<tr>
<td>Duke</td>
<td>Marcus Carson</td>
<td>Sustainability and Quality Assurance Manager, Duke Dining</td>
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</tr>
<tr>
<td>Virginia Tech</td>
<td>Gwyneth Manser</td>
<td>Sustainability Manager for Dining Services</td>
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</tr>
<tr>
<td>Colorado State University</td>
<td>Jeremy Morgan</td>
<td>Executive Chef</td>
<td>Y</td>
</tr>
<tr>
<td>UC Berkeley</td>
<td>Samantha Lubow</td>
<td>Sustainability Chair</td>
<td>Y</td>
</tr>
<tr>
<td>UVA</td>
<td>Sydney Applegate</td>
<td>Green Dining Intern</td>
<td>Y</td>
</tr>
<tr>
<td>Distributor</td>
<td>Contact Person</td>
<td>Contact Position</td>
<td>Response</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------</td>
<td>-----------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Sea to Table</td>
<td>Alissa Westervelt</td>
<td>Institutional Sales Department</td>
<td>Y</td>
</tr>
<tr>
<td>Inland Seafood</td>
<td>Generic marketing email</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>FreshPoint</td>
<td>Lauren Horning</td>
<td>Local and Organic Marketing Specialist</td>
<td>Y-initial N-follow ups</td>
</tr>
<tr>
<td>Grayson Natural Farms</td>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Tropical Nut and Fruit</td>
<td>Angela Bauer</td>
<td>CEO</td>
<td>Y</td>
</tr>
<tr>
<td>Albert’s Organics</td>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Firsthand Foods</td>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Sysco</td>
<td>Michael Gueiss</td>
<td>UNC Executive Chef</td>
<td>Y</td>
</tr>
<tr>
<td>Pate Dawson</td>
<td>Matt Tunnel</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Pate Dawson</td>
<td>Scott Weir</td>
<td>District Manager at Aramark</td>
<td>Y-initial N-did not provide a</td>
</tr>
<tr>
<td>Company</td>
<td>Name</td>
<td>Role</td>
<td>Contact Name</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------</td>
<td>-------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>May’s Meat</td>
<td>Amy Cooke</td>
<td>Advisor and friend of Eliza</td>
<td>Y</td>
</tr>
<tr>
<td>May’s Meat</td>
<td>Eliza</td>
<td>Owner of Cane Creek</td>
<td>Y-initial</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>N-did not have time</td>
</tr>
</tbody>
</table>