



## MSUS Culminating Experience Final Report

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Eat Well, Live Well: ASU’s First Large Event on the Environmental Sustainability of Plant-Based Diets

Project Partner: Aramark

### Abstract

Aramark is a 15.7 billion-dollar Fortune 500 company that provides food, facilities, and uniforms services in education, healthcare, business, leisure, and more. They run 72 food operations across Arizona State University's (ASU) campuses. The company has internal commitments to environmental sustainability and health and wellness respectively outlined in, "Green Thread," and "Healthy for Life 20 By 20." ASU follows the sustainability guidelines presented by The Association for the Advancement of Sustainability in Higher Education (AASHE). In recognition of the negative environmental effects of animal agriculture, the AASHE guidelines have recently changed, which requires Aramark to source more plant-based products. On March 14th, Aramark and I hosted, “Eat Well, Live Well,” ASU’s first large event on the environmental sustainability of plant-based diets. The event had three objectives: to educate and excite event-goers about plant-based diets and sustainability, to alter perceptions, and to stimulate behavior change. Before entering the event, event-goers (largely students) were prompted to fill out a survey that measures their perceptions on the benefits and barriers to consuming a plant-based diet. A post-event survey was distributed to measure the same event-goers’ change in knowledge, perceptions, and behavior. The post-event survey results indicate that, “Eat Well, Live Well,” motivated 59% of event-goers to reduce their consumption of animal-products. The post-event survey results are used to understand whether the event met its objectives. This project takes a community based social marketing (CBSM) approach to fostering sustainable behavior within the student body, as it uses students’ perceived barriers and benefits to develop a compelling case to Aramark on how they should offer and promote plant-based diets on all of ASU campuses.

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## **Introduction and Background**

### **Environmental Effects of Animal Agriculture**

The current consumption rate of animal products in the context of modern agriculture cannot continue sustainably as we anticipate a global population of 9.3 billion by 2050. Whether it be through a lens of land use, greenhouse gas emissions, or biodiversity loss, the effects of livestock production will become increasingly harmful if not urgently addressed. Animal agriculture is the number one cause of global land use changes. In fact, just over 50% of arable land on Earth is used to graze farm animals, or is dedicated to managed forestry (Smith, et. al., 2014). The industry is the second largest emitter of anthropogenic greenhouse gas (GHG) emissions after energy production (Smith, et. al., 2014).

Since there is a loss of carbon sequestration potential when forests are converted to farmland, these regional land use changes become larger global issues. Of course, there is a loss in biodiversity when ecosystems are converted to farmland. The most alarming prediction of biodiversity loss assumes an exponential extinction rate based on the rate between 1970 and 2010, thus predicts that 100% of wild vertebrates will die off by 2026 (World Wildlife Fund, 2014).

Animal agriculture is an inherently resource-inefficient exchange. Humans grow five times as much food for farmed animals than we do for ourselves (Smith, et. al., 2014). The amount of energy contained in fossil fuels, water, and livestock feed, are collectively much more intense than the output product. To put this in perspective, the production of beef can be ten times more energy intense than the energy derived from consuming beef (Sabaté and Soret, 2014). As global demand for animal products intensify, resources used to produce them become more scarce. In our commoditized food system, low-income populations that rely on animal products for their sustenance may be the most vulnerable to any future potential cost-increases due to resources constraints.

### **The Effect of Animal Products On Human Health**

In developed countries such as the United States (USA), consuming animal products is integrated within cultural beliefs, personal identity, and social status. This food-culture is supported through government subsidies and food monopolies. The outcome is a society where cheeseburgers are more accessible, affordable, and appealing than nutritious plant-based foods. The USA does not subsidize in accordance, nor produce the amount of fruits and vegetables that are recommended in its own dietary guidelines. In fact, between 1995 and 2010, 170 billion dollars were spent on financing the production of dairy and livestock, as well as corn, soybeans, wheat rice, and sorghum, almost all of which are used for animal feed (Aubrey, 2016).

Many people still believe that humans cannot live a healthy life without consuming animal products. The reality can often be quite the contrary. Due to the nature of nutrition science, epidemiological studies, and the healthy user bias, it is incredibly difficult to isolate the effects of individual animal products on human health. However, there is supporting evidence that suggests that humans in developed nations are consuming animal products at a rate that is driving disease. In a global study of 200 countries, it was found that 7 in 10 deaths were caused by lifestyle diseases relating to diet and other activities including smoking and drug use. These diseases include heart disease, stroke, cancer, and diabetes (Donnelly, 2016). The China Study (Campbell, T.C. and Campbell, T.M., 2006) and the World Health Organization's Study on Red Meat and Processed Meat (2015) are two examples of highly-acclaimed, yet intensely scrutinized works on the carcinogenic effects that consuming animal-products have on human health (World Health Organization).

Access to basic nutrition is scarce in many places across the globe. Global food scarcity, primarily in developing nations, in conjunction with the animal product-centric culture in developed nations, makes the issue of sustenance a contentious debate. The disparity in access to food between developed and developing nations is an urgent problem widely recognized in sustainability discourse. However, this disparity is out of the scope of this project. The context of this project is in the USA, largely because Americans have the ability to reduce GHG emissions by changing our diets without jeopardizing health and well-being.

### **Act Local, Think Global**

Aramark's commitment to health and wellness titled, "Healthy for Life 20 By 20," is driving the company to make Americans 20% healthier by 2020 by providing more plant-based and "plant-forward" meals across their locations. Since 2015, Aramark has increased their supply of plant-based products at ASU by adding a series of stations called, "The Daily Root," which serve exclusively-plant-based foods in the campus' dining halls. In recognition of the negative environmental effects of animal agriculture, the AASHE guidelines have recently changed, which requires Aramark to source more plant-based products. These changing guidelines call for the company to go beyond the initiatives that they've launched in accordance with their internal commitments to health and wellness. However, since Aramark is a for-profit company, they need to appeal to the desires of customers at ASU or else they risk losing their business to competitors.

Despite an increase in USA-based meat consumption, there is a growing interest in plant-based foods (Daniel, 2011). A Nielsen survey of 30,000 global respondents indicate that 23% of consumers want more plant-based proteins on supermarket shelves. 39% of Americans are actively trying to incorporate more plant-based foods into their diets (Nielsen, 2017). Kroger, the second largest general retailer in the world, predicted that one of their top-five trends in 2019 will be an increase in plant-based product sales (Nielsen, 2017). Aramark at ASU has facilitated this trend by increasing the amount of plant-based products that they serve. This project builds upon previous efforts made by Aramark at ASU.

## Literature Review

The Intergovernmental Panel on Climate Change (IPCC) is the leading international body for the assessment of climate change. Information in IPCC reports are often used in government publications, academia, and media reporting. In the IPCC's Fifth Assessment Report, they delve into all issues relevant to climate change. Chapter 11 of the Assessment Report discusses agriculture, forestry, and other land use. The IPCC states that current animal-agriculture and land mismanagement practices are driving climate change through GHGs and the destruction of carbon sinks. The report offers some supply side solutions, but doesn't fail to mention, "considering demand-side options, changes in human diet can have a significant impact on GHG emissions from the food production lifecycle" (Smith, et. al., 2014).

The IPCC report is long and detailed, but Sabaté and Soret offer a shorter synopsis on the environmental effects of animal agriculture. They offer insight into the energy intensity of meat production on fuel, water, and land. Producing beef for human consumption can be ten times more energy intense than the energy derived from consuming beef (Sabaté and Soret, 2014). Some may say that this is the price that we pay for survival, but Donnelly argues that Westerners are consuming animal products at a rate that is driving disease, not sustaining health. Donnelly argues that a diet rich in animal-products creates lifestyle diseases, which are fueling 7 in 10 deaths in the Western world (Donnelly, 2016).

It is difficult to understand how to intervene in diets without understanding people's knowledge and perceptions. Surveys can be effective tools for gaining insight. Lea et. al. issued a simple random sample survey to 1000 people to collect public views on the perceived benefits and barriers to consuming plant-based diets (Lea et al.'s, 2004). This survey assumes, "that the benefits of change need to outweigh the barriers for behavioral change to occur." According to a 5-point Likert scale, survey respondents were asked to identify potential barriers to consuming a plant-based diet including, "I wouldn't get enough energy or strength," and "I need more information about plant-based diets." Survey respondents were also asked to identify potential benefits to consuming a plant-based diet including, "Help the environment," and "Control weight." According to Lea et al.'s survey, the two biggest barriers were that following a plant-based diet would be too expensive and not tasty enough. This survey found that the 2 biggest benefits were to stay health and control weight. For this project, Lea et al.'s barriers and benefits questions were used in a survey that was distributed to event-goers at Eat Well, Live Well.

Community based social marketing (CBSM) is a method of marketing that is used to address the barriers to adopting sustainable behavior. In *Fostering Sustainable Behavior*, McKenzie-Mohr and Smith (2008) argue that while conventional marketing helps create public awareness, social marketing identifies and overcomes barriers for long lasting behavior change. Although the book does not include a section on best practices for targeting changes in diet, it discusses how

to design and evaluate effective programs to foster sustainable behavior in regard to waste, energy, and transport. In the chapter on uncovering barriers through surveys, a few questions are provided including, “What makes it difficult to do X?” and “What makes it easy to do X?” These questions are similar to those asked in Lea et al.’s survey which collected public views on the perceived benefits and barriers to consuming a plant-based diet. Another concept in CBSM is called fostering social diffusion, which is to influence behavior using familiarity, i.e. “my friend starting eating plant-based, so I am going to try it too.” Hosting an event can be a way to foster social diffusion, because they are a gathering of like-minded people that may influence one another.

Events are an important component of many company’s marketing strategies. They have a variety of objectives ranging from raising money for a cause, advertising an updated mission statement, expanding the organization’s network, and marketing the organization to the public and relevant parties (Cassidy, 2015). Often, when an event’s purpose is to generate sales, measuring the effectiveness of the event is based on that objective alone. However, measuring the effectiveness of educational events can be a murky field, because the effects can be difficult to capture. Because of this, literature on the effectiveness of educational events for changing behavior is sparse. On Think Tanks is an organization that hosts events with the intentions to stimulate new thinking, increase knowledge, raise awareness, and generate practical feedback. They offer a tool for measuring the effectiveness of their events for stimulating thought and changing behavior. They argue that events of this nature need to establish objectives which can be measured through survey responses. For example, if the objective is to influence new behavior, then an appropriate question might be, “Was action taken as a result of the event?” When responses are given using a five-point Likert scale, they can be coded in order to measure whether the event has met its objectives (Cassidy, 2015).

### **Project Approach and Intervention Methods**

Aramark’s current efforts, the recent changes in the AASHE guidelines, and larger trends in the industry all set the context for this project to occur. I partnered with Aramark’s Sustainability Department at ASU to design and facilitate this project.

The purpose of this project is to:

- Educate, inspire, address perceptions, and change behavior within the ASU customer base by hosting ASU’s First Large Event on the Environmental Sustainability of Plant-Based Diets with Aramark
- Measure the effectiveness of the event’s mission using a survey
- Present a compelling case to Aramark on how they should adopt and offer plant-based diets on ASU campus, using evidence-backed findings collected during the duration of the project

## **Eat Well, Live Well: ASU's First Large Event on the Environmental Sustainability of Plant-Based Diets**

Eat Well, Live Well was ASU's first large event on the environmental sustainability of plant-based diets. This event was hosted in partnership between Aramark and myself at ASU in the Student Pavilion on March 14th, 2019 for 500 to 600 students. The event offered a variety of free food samples, activities, speakers, and vendors that communicated the relevance of plant-based diets to sustainability. The event hosted an array of information on how to follow a plant-based diet on campus and at home.

Aramark had several reasons to host a sustainability-themed event, so this approach is in line with their organizational culture. At ASU, Aramark currently uses events as a marketing and outreach tool. They host four events each year on ASU's campuses to promote sustainability, health, wellness, and more. I initially made a connection with them when I worked as a vendor for Daiya Foods at their sustainability-themed event in March of 2018. I approached Aramark with the idea to host an event to celebrate plant-based diets and sustainability in August of 2018. At this time, we agreed to put our resources together to plan Eat Well, Live Well. The Aramark Sustainability Team and I met periodically to establish roles and communicate to ensure the effectiveness of this project. I was actively involved in many aspects of this project, but my primary duty was to plan and curate the Eat Well, Live Well event.

As the event planner and project manager, I coordinated all non-food participants to facilitate activities, giveaways, speeches, and educational outreach. I used funding received through the Sustainability Challenge Grant awarded by Changemaker Central at ASU to fund many aspects of this event. These include materials for a variety of activities, volunteer labor incentives, photography services, and survey incentives to collect pre and post-event data from event-goers.

Eat Well, Live Well brought together over thirty vendors that supported the event's mission. Aramark offered free food samples from a variety of their locations and products offered on campus including food from Engrained, Real Vegetable Meat, Daiya, Rosie's Bakery, Stern Produce, Kind Bar, Java City, Beyond Meat, and more. The foods sampled were used to invite students to try the bountiful options that are available within the realm of a plant-based diet. Aramark's nutrition department also hosted a cooking demonstration to show event-goers how to make a quick and delicious dessert hummus at home. All cutlery and dishware were sustainably sourced and compostable. The event space in the Student Pavilion provided composting and recycling services. The images below were taken at the event. They show an overview of the event as well as some of the food-based vendors that participated.



**Aramark gave event-goers a taste of the bountiful options available in the realm of plant-based foods.**

The food offered at the event was to give event-goers a taste of what is available in the realm of plant-based foods; other participants offered education, activities, sustainable giveaways, and more. These participants provided event-goers with the material to make this a rich educational event. They each brought a different perspective that supported the mission of plant-based diets, sustainability, or both. They include Los Campeones, a Tempe-based vegan bodybuilding gym, ASU Center for Mindfulness, Compassion, and Resilience, Climate Healers, Zero Waste at ASU, The Fair-Trade Student Group, the Global Institute for Sustainability, Borderlands Produce, Clark Park Community Garden, University Sustainability Practices, the Sun Devil Fitness Center, ASU's Vegan Club Veg Out, and Aramark's Sustainability Department. Halle Eakin's Sustainable Food and Farm Class hosted a poster session which presented roughly 10 issues and solutions in the realm of sustainable food systems.

The vegan bodybuilders addressed the common misconception that one needs to eat animal-products in order to be strong. ASU Center for Mindfulness, Compassion, and Resilience hosted yoga, a mindful eating activity, and an essential oil giveaway to offer tools to incorporate mindful behavior in students' daily routines. Climate Healers is an organization that advocates for plant-based diets as a sustainability solution. It is run by a prominent scientist, activist, and documentary producer named Sailesh Rao. He is the executive producer of *Cowspiracy* and *What the Health*, two popular documentaries that explore the negative environmental, social, and health effects of consuming animal products. University Sustainability Practices, Borderlands Produce, and Clark Park Community Garden educated event-goers on ways that sustainable practices can be incorporated into the food-system. The Aramark sustainability team provided rich information on the effects of animal agriculture on planetary resources and

ecosystems. Veg Out, the vegan club at ASU brought together a panel of plant-based doctors and vegan students to answer questions that event-goers might have had about transitioning to a plant-based diet. They also hosted a sustainability themed pin making activity to offer event-goers a memento to take home from the event. Below are some pictures of these participants.



**A variety of mission driven organizations provided educational activities on plant-based diets and sustainability.**

Thanks to Charles Darr, the photographer and videographer for this event, we were able to create a short video that encompasses the mission of this event. The screenshot of the video is embedded below and can be viewed at the following link:

<https://www.youtube.com/watch?v=qjFVZM7yk4A&t=1s>.



**“Aly Stoffo | Eat Well, Live Well,” a short video on the event.**



The flyer used to advertise Eat Well, Live Well.

## Outcomes and Findings

If we revisit the 3 objectives of this project, it is clear that Eat Well, Live Well's purpose was to meet the first objective, which was to educate, inspire, address perceptions, and change behavior within the ASU customer base by hosting ASU's first large event to celebrate plant-based diets and sustainability. The pre and post-event surveys were used to meet the project's second and third objectives, stated below:

- Measure the effectiveness of the event's mission using a survey
- Present a compelling case to Aramark on how they should adopt and offer plant-based diets on ASU campus, using evidence-backed findings collected during the duration of the project

By enlisting volunteers to distribute surveys to event-goers before entering, 194 pre-event surveys were collected, which was approximately 30% of event-goers. A post-event survey was issued 4 days after the event, and 102 responses were collected. The post-event survey was used to measure the effectiveness of the event's mission. However, information captured in the pre-event survey was used to inform a strategy to fostering adoption of plant-based diets through Aramark at ASU.

### **Pre-Event Survey: Perceptions On the Benefits and Barriers To Consuming A Plant-Based Diet**

A CBSM-informed strategy to fostering sustainable behavior must utilize people's perceptions on the benefits and barriers to performing a sustainable behavior (McKenzie Mohr, D. and Smith, W, 2008). The pre-event survey collected a baseline of student's knowledge on plant-based diets, sustainability, their eating habits, and their perceptions on diet. The questions asked them to offer their perceptions on the benefits and barriers to consuming a plant-based diet. The pre-event survey used many of the questions asked in Lea et al.'s survey provided in the literature review (2004).

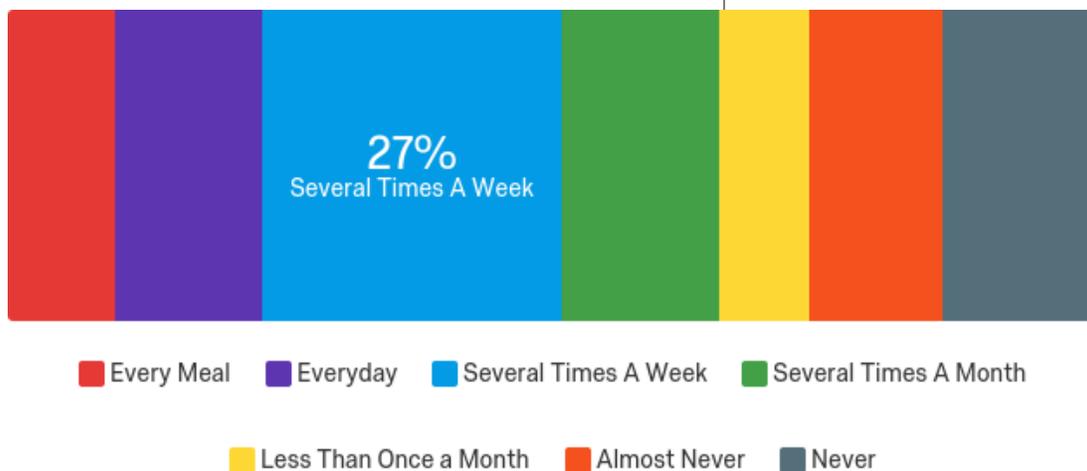
Eat Well, Live Well was not advertised as a plant-based or sustainability event. The flyer simply stated, "Eat Well, Live Well: Free Food Samples, Activities, Giveaways, and Much More!" This approach was used to mitigate attendees' pre-event biases about plant-based diets. Unlike Lea et al.'s survey, the pre-event survey was not drawn from a simple random sample. However, the event's vague description was used to attract a broader attendee demographic than vegan and/or sustainability supporters. Surveying a broader group was necessary to collect the information needed to meet the project's objectives.

The pre-event survey collected relevant information to understanding event-goers knowledge, perceptions, and behavior relevant to sustainability and plant-based diets. Below are some results that are most relevant to this project. All percentages were rounded to the nearest whole number.



<b>Question Asked in Pre-Event Survey</b>	<b>Respondents' Answers</b>
<i>How often do you buy food on campus?</i>	8% - Every Meal 30 % - Everyday 26% - Several Times A Week 13% - Several Times A Month 5% - Less Than Once a Month 8% - Almost Never 8% - Never
<i>How often do you eat at dining halls on campus?</i>	8% - Every Meal 11% - Everyday 9% - Several Times A Week 6% - Several Times A Month 9% - Less Than Once a Month 18% - Almost Never 38% - Never

<b>Question Asked in Pre-Event Survey</b>	<b>Respondents' Answers</b>
<i>How often do you exclude animal-products from your diet?</i>	10% - Every Meal 13% - Everyday 27% - Several Times A Week 14% - Several Times A Month 8% - Less Than Once a Month 12% - Almost Never 14% - Never



The chart above is a visual representation of how respondents answered the question, "How often do you exclude animal-products from your diet?" in the pre-event survey.

In the pre-event survey, respondents were asked to provide their perceptions on the benefits and barriers to consuming a plant-based diet. Respondents were prompted to answer using a 5-point Likert scale ranging from strongly agree to strongly disagree. Below are the 3 biggest benefits and barriers to consuming a plant-based diet. For the purpose of analysis, “strongly agree,” and “agree,” were combined to represent that respondents agreed with a statement. “Strongly disagree,” and “disagree,” were also combined to represent that respondents disagreed with a statement. This approach was also used in Lea et al.’s survey.

<b>Question Asked in Pre-Event Survey</b>	<b>Respondents' Answers</b>
<i>Some people believe that eating a plant-based diet has specific difficulties. How much, if at all, do these statements apply to you?</i>	65% - I need more information about plant-based diets 43% - I would (or do) miss eating lots of 'junk' (e.g. sugary) food 38% - It would be too expensive
<b>Question Asked in Pre-Event Survey</b>	<b>Respondents' Answers</b>
<i>Some people believe that eating a plant-based diet has specific benefits. How much, if at all, do these statements apply to you?</i>	93% - Stay healthy 92% - Help the environment and contribute to sustainability 85% - Have a better quality of life

These perceptions reveal the biggest benefits and barriers to consuming a plant-based diet. These perceptions can provide valuable insight to Aramark, as they can be used to inform a CBSM approach to fostering adoption of plant-based diets on ASU campus. Aramark currently uses CBSM campaigns to decrease food waste in ASU’s dining halls. Their Sustainability Department is interested in promoting sustainable behavior on ASU’s campuses. These perceptions will be revisited later in this report.

### **Post-Event Survey: Measuring the Effectiveness of the Event’s Mission**

A post-event survey was issued 4 days after the event and 102 responses were collected, which was approximately 17% of event-goers. The post-event survey was used to measure the effectiveness of the event’s mission. The design of the post-event survey was guided by On Think Tank’s tool for assessing events provided in the literature review (Cassidy, 2015). Currently, the body of knowledge on the effectiveness of educational events for changing behavior is sparse. The post-event’s results contribute to this body of knowledge as well as provide insight to Aramark on the effectiveness of this event. Since collecting post-event

surveys can be difficult, respondents were entered into a raffle to win a \$50 Amazon gift card upon completing the post-event survey.

The event's objectives were to educate, inspire, address perceptions, and change behavior within the ASU customer base by hosting ASU's first large event to celebrate plant-based diets and sustainability. The following questions were asked to understand whether the event met its objectives.

The following questions were asked to understand whether the event educated event-goers.

<b>Statement Posed in Post-Event Survey</b>	<b>Percentage of Respondents that Agree</b>	<b>Objective Met</b>
<i>This event was informative and educational.</i>	90%	Yes
<i>This event was thought provoking.</i>	91%	Yes
<i>This event taught me something valuable about sustainability.</i>	83%	Yes
<i>This event taught me something valuable about plant-based diets.</i>	82%	Yes
<i>There were high quality speakers, vendors, activities, and participants at this event.</i>	87%	Yes

The following questions were asked to understand whether the event inspired event-goers.

<b>Statement Posed in Post-Event Survey</b>	<b>Percentage of Respondents that Agree</b>	<b>Objective Met</b>
<i>This event was exciting and fun.</i>	94%	Yes
<i>This event provoked me to think about my diet's impact on the world.</i>	73%	Yes
<i>I would voluntarily buy this plant-based food.</i>	77%	Yes
<i>I am interested in learning more about sustainability.</i>	89%	Yes
<i>I am interested in learning more about plant-based diets.</i>	78%	Yes

The following questions were asked to understand whether the event addressed the perceptions of event-goers.

<b>Statement Posed in Post-Event Survey</b>	<b>Percentage of Respondents that Agree</b>	<b>Objective Met</b>
<i>This event altered my beliefs on plant-based diets.</i>	47%	Contingent on previous beliefs.

The following questions were asked to understand whether the event changed the behavior event-goers.

<b>Statement Posed in Post-Event Survey</b>	<b>Percentage of Respondents that Agree</b>	<b>Objective Met</b>
<i>After this event, I am more likely to try and enjoy plant-based foods.</i>	71%	Yes
<i>After the event I thought about reducing the amount of animal-products that I consume.</i>	65%	Yes
<i>After the event, I reduced or intended to reduce the amount of animal-products that I consume.</i>	59%	Yes

Three questions were asked in both the pre and post-event surveys to compare how the event might affect responses. There was little to no change in respondents' answers. Below are comparisons on these questions.

<b>Statement Posed</b>	<b>Pre-Event Agree %</b>	<b>Post-Event Agree %</b>
<i>I am interested in learning about sustainability.</i>	89%	89%
<i>I am interested in learning about plant-based diets.</i>	84%	83%
<i>The food choices I make have an effect on the world. (Some of these effects include animal welfare and safety, the environment, and farm worker's rights and livelihoods).</i>	90%	90%

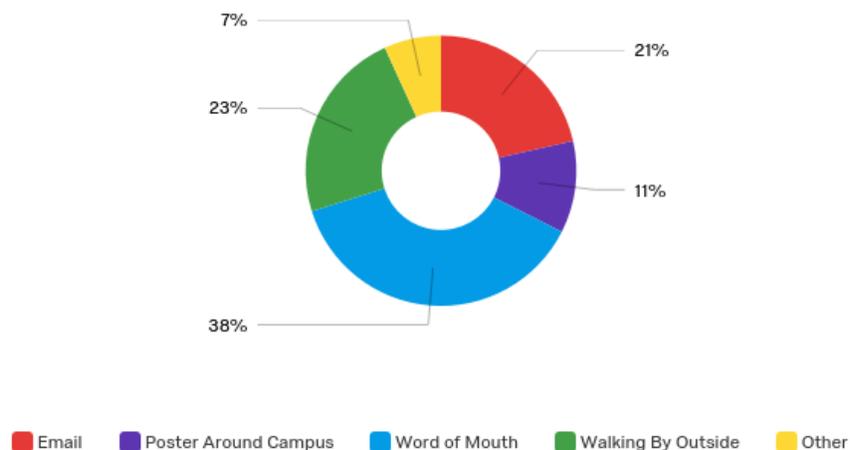
## **Recommendations**

The findings from the post-event survey shows that Eat Well, Live Well met its objectives. These are exciting findings that persuade Aramark and I to believe that this was a successful event. However, the findings could have more legitimacy if there were a few differences. As the event planner and project manager, I believe that the following differences would have made the event and survey components of this project stronger:

- If the event attracted a broader group of attendees outside of sustainability circles, the survey could provide insight on whether this event truly educated about sustainability.
- If the follow-up survey asked respondents' course of study again, then it would provide stronger insight on whether this event truly educated about sustainability.
- The post-event survey assumed a negative initial perception on plant-based diets. If the survey asked respondents to indicate their initial perceptions on plant-based diets, then the post-event survey would better indicate whether a change in perceptions was a desirable objective to measure.
- The event's flyer was vague. Attendees were not aware of the body-building demonstrations, yoga activity, or the variety of giveaways offered through this event. Using images on the event's flyer might have been a more effective way to draw people into this event. I have shared all of the photos that Charles Darr took at this event with Aramark's Sustainability Department for future use.

## **Present a Compelling Case to Aramark**

The third and final objective of this project was to present a compelling case to Aramark on how they should adopt and offer plant-based diets on ASU campus, using evidence-backed findings collected during the duration of the project. I've made four recommendations to Aramark in line with this mission. My recommendations should help them meet guidelines set by the changing AASHE guidelines. To my knowledge, Aramark's Sustainability Department is still currently assessing where they stand against these newly revised guidelines. As part of my recommendations, I've also provided some findings from the pre and post-event surveys that are useful to Aramark, and they are described below.



The chart above is a visual representation of how respondents answered the question, "How did you learn about this event?"

Most of the event-goers heard about this event through word of mouth. The second biggest driver of event attendance was by walking outside of the event and being intrigued to enter. Only 32% of event-goers learned about this event through e-mail or poster. This is insightful for Aramark, as their current primary means of communicating with their customer base at ASU is through email marketing. Although Aramark is a contractor at ASU, they do not have access to large listservs containing student emails. The only students they are able to contact are those that voluntarily sign up for email communication specific to Aramark or Sun Devil Dining.

In the post-event survey students were asked to provide their favorite aspects of this event, as well as provide their constructive feedback. These responses should be used by Aramark's Sustainability Department to improve their future events. Responses were given through short answers, but they were coded in the following categories.

<i>In 5 words or less, please describe your favorite aspect or aspects of the Eat Well, Live Well event.</i>	
<i>Categories</i>	<i>Percentage of Responses</i>
<i>Food</i>	55%
<i>Educational</i>	17%
<i>Fun</i>	10%
<i>Combination of the 3 above</i>	15%
<i>Other</i>	3%

<i>In 5 words or less, please share what you think could have been done differently at the Eat Well, Live Well event or at events like this.</i>	
<b>Categories</b>	<b>Percentage of Responses</b>
<i>Provide Better Information</i>	25%
<i>Nothing</i>	22%
<i>Provide More/Better Food</i>	14%
<i>Better Sustainability Practices at Event</i>	6%
<i>Better Structure/Floor Plan/Scheduling</i>	9%
<i>Host More Events Like This</i>	2%
<i>Other</i>	2%

The following recommendations are based on the survey's findings, my knowledge of their department's structure and departmental limitations, as well as changes that they are expected to incur given the recent change in AASHE guidelines.

#### Recommendation #1

- Aramark should attempt to understand the number of students that are utilizing the plant-based Daily Root stations and other plant-based options in ASU's dining halls. My recommendation contains a four-point strategy.

#### Action

- Install an iPad at the Daily-Root stations that students can use to notify the company that they've dined at the Daily-Root
- Incorporate a Daily-Root or Meatless-Monday themed loyalty card for students who utilize their plant-based options
- Conduct two or more observational studies each semester to find out what students are eating in dining halls during high-volume hours
- Conduct two or more surveys each semester in the dining halls to understand students' knowledge, perceptions, and behaviors pertaining to diet and sustainability

#### Justification

Aramark is interested in promoting sustainable behavior on ASU's campuses. By installing an iPad with this feature, they can begin to estimate how many students are dining at the Daily-Root stations. Upon choosing food from this station, students should be prompted to click a button on the iPad's digitized screen that says, "I've dined at the Daily Root today." When students click this button on the iPad, they will be presented with the carbon offset of their meal in real time. This feature should offer more information about the relevance of sustainability to plant-based diets to those who wish to explore it. If students are rewarded for utilizing Aramark's plant-based options, loyalty cards can be used as incentives for students to do so. For example, for every 10 meals dined at the Daily-Root, students get 1 free. Observational studies and surveys are ways to gain information on students' knowledge,

perceptions, and behavior, which cannot be captured by them solely choosing to dine at the Daily-Root. These studies and surveys can be used to explore more types of sustainable behavior, such as composting and food waste.

#### Why This Makes Sense for Aramark

This fits in with the Aramark Sustainability Department's current educational outreach strategies. Their sustainability interns currently host tabling sessions in the dining halls on a weekly basis. They can conduct observational studies and distribute surveys during these short tabling sessions.

#### Recommendation #2

- Use a CBSM approach to fostering the adoption of plant-based diets at ASU utilizing the perceived benefits and barriers identified in the pre-event.

#### Action

- Build a campaign that can be publicized through posters, napkin inserts, and banners on campus around the perceived benefits and barriers to consuming a plant-based diet.

#### Justification

The pre-event survey identified that the 3 biggest barriers to consuming a plant-based diet were that students needed more information about plant-based diets, they would miss eating lots of 'junk' (e.g. sugary) food, and that it would be too expensive. The pre-event survey identified that the 3 biggest benefits to consuming a plant-based diet are that it would help them stay healthy, help them have a better quality of life, and help the environment/contribute to sustainability. A CBSM informed campaign should argue that the benefits of adopting a sustainable behavior outweigh the barriers. The only way to be sure of whether the benefits of adopting plant-based diets truly outweigh the barriers is to put it into action. Aramark's Graphic Design department can design info-graphics around these topics that can be displayed on posters, napkin inserts, and banners around campus. For example, a CBSM informed poster might read, "Want to stay healthy, but you love junk food? Explore healthy plant-based desserts at the Daily-Root stations to cover all of your bases." The surveys mentioned in Recommendation #1 can be used to test the effectiveness of this campaign.

#### Why This Makes Sense for Aramark

The Aramark Sustainability Department suggested that I read, "Fostering Sustainability Behavior," before beginning this project. This book is a manifesto on CBSM approaches to fostering sustainable behavior. I've used the findings from this book to inform this project. They

use CBSM approaches to minimizing food waste in ASU's dining halls, so they might be open to a CBSM approach to fostering adoption of plant-based diets at ASU.

### Recommendation #3

- Share and promote a case study about this project to share internally and across Aramark locations at other Universities.

### Action

- Share and promote the case study that I've designed for the Humane Society of the United States, an Aramark partner.

### Justification

I've partnered with the Humane Society of the United States to create a case study about this event that can be shared through their organization. This case study is primarily for students or event-planners who wish to promote behavior change using an educational event. This case study offers insight into how this project occurred at ASU, and how it might occur at other Universities. By sharing and promoting this case study, Aramark is showing leadership in sustainability and student engagement. This case study will also offer an event-planner's guide for those that may have never hosted an event. It includes a project budget, checklists, resources, and tips for success.

### Why This Makes Sense for Aramark

Aramark's Sustainability Department at ASU can utilize this case study and event-planner's guide as a training resource for future interns. They can also promote their efforts to make ASU more sustainable through this document. They currently publish an annual sustainability report to showcase their efforts. This case study can also be used to inform their annual report.

### Recommendation #4

- Use leverage to get vendors to serve products that they offered at this event

### Action

- Discuss integrating plant-based products with campus-based vendors who attended Eat Well, Live Well

### Justification

Many campus-based vendors attended the Eat Well, Live Well event. Some include ASU's dining halls, Rosie's Bakery, Freshii, and Engrained. Although plant-based products are offered at some of these locations, some do not offer them all of the time, or students are unaware of them. Using their leverage to persuade vendors to offer more plant-based products can work well in conjunction with the CBSM informed campaign outlined in recommendation #3.

## Why This Makes Sense for Aramark

It can make financial sense for all of Aramark's locations to offer products that are accessible to vegans, vegetarians, or those wishing to incorporate plant-based foods into their diet.

Aramark's current efforts to incorporate plant-based foods at ASU proves that they are aware of this. Providing more plant-based meals is in line with Aramark's corporate strategy outlined in "Healthy for Life 20 By 20."

## Conclusions

I met with Aramark's Sustainability Department on Friday, April 26<sup>th</sup> to discuss these findings and recommendations. They took them exceptionally well and showed interest in adopting some of these recommendations, namely recommendations #1 and #2. They revealed to me that they don't believe that events are the most effective method of changing behavior relative to their cost and the amount of time that they take to plan. I agree with them, which is why I did not suggest any recommendations that add to their cost or stray far outside of their current duties. They were pleased that my recommendations integrated their existing infrastructure such as the dining halls and their revolving internship positions. After our meeting, they said that they would be happy to provide a reference to me for jobs that I apply for after graduation. I perceive this as a job well done.

Plant-based diets are a new topic that the Aramark sustainability team has to address. The changing AASHE guidelines were an unexpected coincidence that occurred months into planning the project, and I believe that this project acted as a catalyst for action in the wake of these changes. I have built rapport with Aramark throughout the duration of this project by hosting educational engagement demonstrations on Meatless Mondays in the dining halls. These demonstrations are a part of Aramark's student engagement strategy, but in the past these conversations have been about food waste and composting, not plant-based diets. I believe that this project has directly influenced Aramark's Sustainability Department at ASU to take ownership of this issue.

The results from the post-event survey reveal that event-goers received the event exceptionally well. The event was called, "the best event that ASU has ever hosted." According to the Aramark Sustainability Department and myself, this project met its objectives.

Recommendations to improve this project have been outlined within their respective sections in this paper. Throughout this process, I learned a great deal about the skills required to enlist a variety of organizations to come together for a strong mission. Many of the event's participants had never been brought together in the same space, yet all of their missions are aligned. It takes a sustainability change agent and project management skills to make a project like this come to life.

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