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Brigitta Bogue

University of Nebraska - Lincoln

Emma Sorensen

University of Nebraska - Lincoln

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STUDENT PERCEPTION OF INDUSTRIAL AGRICULTURE: EFFECTS ON MIGRANT
FARMWORKERS AND THE ENVIRONMENT

by

Emma Sorensen

Major: Environmental Studies

With the Emphasis of: Horticulture

Brigitta Bogue

Major: Environmental Studies

With the Emphasis of: Sociology

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STUDENT PERCEPTION OF INDUSTRIAL AGRICULTURE: EFFECTS ON MIGRANT FARMWORKERS AND THE ENVIRONMENT

Emma Sorensen, B.S. | Brigitta Bogue, B.A.

University of Nebraska, 2020 and 2019

Advisors: Dr. Lory Dance and Amy Swoboda, J.D.

ABSTRACT

Companies such as Tyson Foods and Costco are creating problems through their use of industrial farming practices in Nebraska, such as concentrated animal feeding operations (CAFOs) and monocropping, to generate profit at the cost of humans and the environment. Those most affected are migrant farmworkers from Mexico. The environment is threatened because CAFOs generate greenhouse gases, and pollute nearby waterways with nitrogen. This paper addresses the following research questions: Are students' perceptions of industrial agricultural companies, such as Costco and Tyson, positive or negative? Are students aware of these issues? How do these perceptions affect issues of sustainability and environmental justice? Surveys with qualitative and quantitative questions were given in nine classes at University of Nebraska-Lincoln to understand awareness and perception around these issues. The surveys were then compared to available literature to understand perception versus reality. Students were generally unaware of the negative impacts of Tyson and Costco. Due to a lack of corporate accountability, public unawareness allows companies to perpetuate their negative behaviors, especially related to the human rights of migrant farmworkers.

INTRODUCTION

Purpose

Environmental justice¹ and industrial farming² are intertwined issues that arose during the agricultural revolution and still prevail today. The United States of America is a neoliberal society³, which creates a system where large corporations can use “profit before people” practices, causing a variety of issues related to labor rights and environmental sustainability⁴. Large companies typically attempt to portray themselves as ethically as possible. This careful marketing strategy is misleading and is often the only information presented to consumers. This disinformation is dangerous because it leaves corporations unchecked and erases the voices of marginalized communities⁵. The focus of the research project was to find if students’ perceptions of industrial agricultural companies, such as Costco and Tyson, are positive or negative; and how these perceptions affect issues of sustainability and environmental justice. The conceptual framework of this study was based on the sociological conflict theory⁶ and theory of environmental justice.

Tyson Foods, Costco, and Nebraska

Tyson Foods, the world’s second largest meat company, has been producing chicken since the Great Depression (Tyson Foods 2019). According to Tyson’s website, the company claims to “sustainably feed the world” while “remaining inclusive, truthful, and sincere” (Tyson

¹ Describes the disproportionate effects of environmental issues on marginalized groups

² Modern farming practice that generates a lot of product to feed large amounts of people

³ Society with unrestricted capitalism

⁴ Strategic economic, social, political, and technological policies which preserve the world for future generations

⁵ Communities which experience the continued effects of current and historical discrimination, which result in unequal treatment and opportunities (i.e. race/ethnicity, gender identity, sexuality, etc.)

⁶ Theory in the field of sociology associated with views that social institutions are not working the way they are and need to change in order to improve individual lives

2019). As part of this stated mission, Tyson Foods aims to create an environment that is positive for their customers and team members. They place an emphasis on caring for the team who makes the food through embracing creativity, committing to deliver results the right way, and creating an atmosphere similar to a farm-to-table business. Tyson Foods has plants in Madison, Lexington, Dakota City, and Omaha, Nebraska (Tyson Foods 2019).

In instances where Tyson's relationship with sustainability and workers' rights have been investigated, their promises in their mission statement have fallen short. Concentrated animal agriculture is one of the leading causes of climate change (Cassuto 2010), and Tyson has repeatedly been under fire for the conditions their workers have endured (Peña 2003). The reality of their operating methods compared to their self-described values brings into question how Tyson Foods is perceived by consumers. This study was based on Concentrated Animal Feeding Operations (CAFOs) and those employed directly or tangentially to understand the effects Tyson has on communities in Nebraska.

Costco, a bulk-supply warehouse, is a large and growing meat supplier. Costco has a page on their website dedicated to sustainability, but the page is filled with vague promises (Costco 2019). At the bottom of the page, the company lists a disclaimer stating they cannot be held accountable for following through on their promises (Costco 2019).

Controversially, Costco recently built warehouses in Nebraska (Knapp 2018). The new Costco plant built near Fremont, Nebraska is expected to process around 2 million chickens per week, with the goal of supplying 40% of Costco's poultry needs (Gerlock 2018). People living near these plants have mixed feelings about the scale of the operation. Ruth June is a resident of Lancaster County whose home is near a proposed Costco chicken barn which will raise chickens for the plant in Fremont. When interviewed about her thoughts regarding the plant she said,

“This is a nice quiet neighborhood. Nice people. Everybody gets along. Now, we’re going to be shut up in our houses because we can’t stand the smell outside?” (Knapp 2018). The introduction of the Costco chicken plant and resulting chicken-raising farms is devaluing the surrounding areas and creating potential health hazards for nearby residents (Knapp 2018). There are also detrimental environmental consequences which result from processing two million chickens a week (Cassuto 2010). The continued use of CAFOs by Tyson Foods and Costco has created sustainability and environmental justice issues.

Tyson Foods and Costco provide affordable food for families that are living paycheck to paycheck. Many people are limited in the foods they can buy because of income, location, or time. Although the addition of large companies provides new infrastructure and jobs to rural communities, the companies’ lack of accountability allows for exploitation of surrounding family farms and the workers they hire. Tyson Foods and Costco have poor records related to their treatment of workers and the environment. With enough public pressure, change could occur to grow the benefits of the companies and reduce their inadequacies. Additionally, this study is limited to the effects of CAFOs run by these corporations and does not include the multitude of other practices, positive or negative, in which these corporations are involved.

Migrant Farmworkers

Throughout the history of the United States, people indigenous to what is now Mexico have been oppressed by European settlers. The US took a significant portion of Mexico in the Mexican-American War, which now composes much the Southwestern States (Pfeifer 2016). Mexicans living in this area were stripped of their rights and forced to become laborers for European settlers. The 80,000 Mexican citizens living in this area were promised that they would retain their property rights and would be given the opportunity to naturalize as US citizens;

however, violence and unjust legal practices were used to subvert this promise over time (Steinberg 2001).

Today, people from Mexico and South American countries, including people without documentation, are exploited for cheap labor in jobs no one else will take. With looming threats of deportation, undocumented workers⁷ cannot readily advocate for their rights and can be forced to endure exploitation in both pay and treatment (Pfeifer 2016, Peña 2003). Those who have legal status are often discriminated against based on racist and xenophobic ideas, which limits opportunities for documented workers from Mexico and South American countries as well (Pfeifer 2016). European settlers illegally came into the Americas, in which indigenous people already resided, and stole the land (Steinberg 2001). These groups of European settlers claimed power, created new borders, and have since called indigenous people coming from southern countries to the US “illegal”, and use this claim as grounds for erasure and discrimination (Steinberg 2001).

The working conditions migrant farmworkers face are often inadequate and dangerous. There is often no potable water available and workers are provided with housing that is typically not suitable for living (Peña 2003). Even when workers have access to well water, the water often has dangerous levels of farm runoff contaminants (Pfeifer 2016). Within animal agriculture plants, reports have shown that workers are frequently denied bathroom breaks and are forced to either wear adult diapers to work or intentionally stay dehydrated while performing manual labor to avoid adult diapers (OXFAM 2016). Additionally, these workers have low access to work benefits, medical care, and education (Peña 2003). While working in fields which grow feed for animals in CAFOs, workers are subject to pesticide drifts, which occur when pesticides blow into

⁷ People working in a country in which they do not have legal residency

fields from neighboring fields that are being sprayed. As genetically modified crops (GMOs) are used more frequently, pesticide use must also increase due to the cycle of resistance⁸ with pests and disease (Peña 2003). Although pesticides are potentially harmful to humans all together, migrant farmworkers face disproportionate exposure and thus disproportionate health consequences.

Pesticide poisoning is one health issue that occurs as a result of the unsafe working conditions migrant farmworkers face. Long term exposure not only affects the people working directly with pesticides, but entire families living near these farms and in farmworker housing. Children are more susceptible to the health problems caused by pesticide exposure and prenatal exposure to these toxic chemicals can cause birth defects in newborns (Pfeifer 2016). Long term effects of pesticide exposure include cancer, neurological problems, memory loss, endocrine diseases, reproductive issues, asthma, diabetes, and thyroid disease (Pfeifer 2016). Although the health consequences of toxic pesticide exposure are well documented, companies frequently choose increased profit over human lives. Unsafe and unsanitary housing conditions such as overcrowding, a lack of toilets, and unsafe structural problems create breeding grounds for disease and injury. Cases of slavery and severe abuse involving migrant farmworkers has been documented (Pfeifer 2016). Based on a survey done in 2013, almost half of migrant farmworkers in Nebraska have depression, along with widespread social isolation and economic barriers (Ramos 2015). In 2013, Tyson settled a case with the EPA and Department of Justice in which anhydrous ammonia was released in plants across multiple states including Nebraska. In one of the Nebraska cases, 40 workers were hospitalized and one person died due to the exposure (RAN

⁸ As plants are genetically modified to be resistant to pesticides, weeds and pests become resistant as well, which results in a continual increase of pesticides required

2016). The fine was a mere 0.12% of the company's net worth. Although this is only one case, it is representative of the larger issue of nominal fines for large impacts on human safety.

Many times, the first question coming from a more privileged perspective is: are these large corporations intentionally acting discriminatory toward migrant farmworkers from Mexico? Although the answer seems to be yes, it is easy to deny blame if the consequences solely rely on intentions, as intentions are difficult to prove. However, disproportionate effects on marginalized groups can be measured. It is of utmost importance to give voice to and better meet the needs of people affected by injustice and move past outdated views of racism which focus on intentionality (Peña 2003). Farmworkers who are undocumented face major barriers to legal protections and collective bargaining⁹ strategies to improve their working conditions; there is a constant threat of being deported or jailed due to their immigration status (Peña 2003). The employers, on the other hand, face fines which are nominal compared to their net worth and money saved by hiring workers they can exploit. It is also important to note that when thinking about ways to move forward in addressing these issues, those who are discriminated against should have control over how issues are resolved. In short, the voices of marginalized groups should be uplifted, and the role of those coming from a place of privilege is to support and use their position to shift power dynamics.

Environmental Consequences of Industrial Farming

Currently, the U.S. agricultural system has a questionable relationship with sustainability (Parr 1990). CAFOs are an increasingly popular animal agriculture practice which is rooted in keeping up with consumer demand by producing animal products as fast as possible (Cassuto 2010). The demand for meat in both more developed and less developed countries is increasing

⁹ As plants are genetically modified to be resistant to pesticides, weeds and pests become resistant as well, which results in a continual increase of pesticides required

(Cassuto 2010). The animal agriculture system is one of the leading causes of greenhouse gas output, meaning CAFOs are not a sustainable form of generating food (Cassuto 2010). This type of farming practice has proven to not only release greenhouse gases, but to pollute nearby water sources (Jacques 2012). A multitude of land and resources are needed to grow food for the animals to eat, and to take care of the animals themselves. Resources are then needed to slaughter the animals, package the meat, transport the product, and preserve the condition in a market all before making it to a consumer. Livestock are often fed corn, which increases in demand when CAFOs are present, causing pressure for large scale, single crop fields. Monocropping¹⁰ of corn is dangerous for soil health, disease resistance, and increased reliance on pesticides (Magdoff 2005).

Family farming¹¹ is intertwined with issues of industrial agriculture because large scale farming increases at the cost of family farms (Cassuto 2010). Industrial agricultural companies continue to portray “family farm values” to consumers (Cassuto 2010). Family farms embrace a symbiotic relationship between the land and farmer (Wirpsa 1995), while industrial farming is often focused on increasing profit (Cassuto 2010). Highlighting this difference in values is important in the process of recognizing that different mindsets create different impacts. A family farm will respect the land and keep it healthy for many years, while industrial agriculture does not take future land use into enough consideration, if at all. Industrial farming is damaging the land with monocropping and is one of the leading causes of climate change, thus causing further worldwide damage (Cassuto 2010). This relationship does not coexist with family farm values, which can be explained by a quote from a family farmer in Nebraska:

¹⁰ Only one crop grown in a particular area year to year

¹¹ Farming practices owned and operated by one particular family. Does not extend to large companies that own multiple farms

If you run out of food, it's not like not having some convenience. I think the world faces the possibility of a major food crisis sometime in the future because of the way we handle our food system. We see these great displays in the grocery store and the shelves are full and it looks so wonderful, but behind the scenes are hungry people, not only hungry people, but exploited workers, cheated farmers, cheated consumers. And unsafe food. (Wirpsa 1995)

CAFOs are built to produce a lot of product efficiently, which only benefits profit margins, and hurts sustainability (Jacques 2012). This mindset is a problem because animals being bred at such a high rate for meat consumption causes a lot of environmental consequences through resource use (Cassuto 2010). Freshwater resources are depleting. Nebraska and Kansas have sued each other over water rights (Hendee 2015), while California consistently deals with major droughts (Cassuto 2010). CAFO production of one pound of beef requires 5,214 gallons of water (Cassuto 2010). Then, surrounding water sources not used as part of the process to make the beef are polluted by the animal waste (Cassuto 2010). The run-off from the large amounts of animal waste from the CAFOs results in phosphorus and nitrogen overload in the water source into which it runs (Daniel 1998). This leads to eutrophication, which is a depletion of oxygen in the water source that leads to an ecosystem in which animals cannot thrive (Daniel 1998). A Tyson plant in Dakota City, Nebraska allowed fecal matter and nitrates to enter the Missouri River in 2001, which resulted in Tyson paying 2 million dollars plus an additional 4.1 million dollars to own and operate equipment to reduce contamination of the nearby waterways (RAN 2016). These fines are only 0.19% of the company's net worth. Contaminating water supplies supports claim that industrial farming is less environmentally friendly than family farming.

Another significant problem stems from greenhouse gases released throughout the process of raising the animals. CAFOs create a large amount of animal flatulence and feces which result in the release of methane, a greenhouse gas, into the atmosphere (Cassuto 2010). The concentration of animals causes the methane output to become a considerable problem as a greenhouse gas (Cassuto 2010). From the article *The CAFO Hothouse: Climate Change, Industrial Agriculture and the Law*; “In the United States, livestock produce 1 million pounds of manure every four seconds.” Methane is approximately twenty times more potent than carbon dioxide - this is why it is so dangerous as a greenhouse gas (Edwards 1990). Because CAFOs are meant to produce product fast, the animals are fed the cheapest feed that will also allow animal growth to occur as fast as possible (Jacques 2012). Corn is primarily used as this animal feed.

The use of corn as feed increases the amount of methane released because animals digest foods differently (Cassuto 2010). Ruminant livestock¹² release methane differently depending on the type of food consumed (Cassuto 2010). Corn fed animals emit more methane than those fed other types of foods (Cassuto 2010). The use of corn as a food source for these animals causes problems beyond excessive methane emissions and is connected to CAFOs. Corn is one of the main crops grown in Nebraska specifically to be used as animal feed, which leads to the issue of monocropping.

Monocropped fields lack the biodiversity needed to protect against the spread of disease (Gaudin 2015). Before monocropping became one of the primary industrial agricultural practices, corn was grown alongside and in rotation with other crops, which kept the soil healthy and reduced pests (Pfeifer 2016). Now, corn is often the only crop grown on the same land year after year. Another frequented practice is to rotate corn with one other crop, such as soy, which

¹² Livestock that can digest certain nutrients due to their specialized stomach

does not diminish the negative effect monocropping has on the land. Monocropping does not allow the soil to keep its integrity, nor does it naturally keep pest populations down (Pfeifer 2016). An increase in pests causes an increase in pesticide use and reduction in soil health, which is environmentally destructive (Pfeifer 2016).

Overview

Other researchers have approached the subject of industrial farming and the effects on the environment and migrant workers largely through qualitative essays which present a collection of information supporting their overall argument. Both Cassuto and Peña conveyed their findings through an essay. The Rainforest Action Network compiled lawsuits against Tyson and Costco to relay quantitative results of the company's actions (RAN 2016). Costco and Tyson Foods create environmental issues in Nebraska which disproportionately affect migrant farmworkers. CAFOs present major problems in terms of nitrogen runoff, the release of methane, and emissions of other greenhouse gases. The practice of monocropping usually required to feed the large number of animals within a CAFO is damaging to soil health (Gaudin 2015). It also creates issues with pesticide resistance¹³, which leads to more pesticide usage that is damaging to workers' health. Corporations continue to exploit migrant farmworkers to increase their profit margins. Actions by these companies toward the environment and workers does not align with their self-described practices. The information companies share regarding their values and practices is often the primary source of information which dictates public perception. This unawareness contributes to the continuation of a multitude of negative consequences for humans and the environment, which relate to the research questions of this study.

¹³ Due to species evolution, when crops are genetically modified to resist pesticides, the pests also become resistant to the pesticide, causing a perpetual increase in pesticides required

The study was conducted through surveys, which were given in nine classes at University of Nebraska-Lincoln (UNL) to understand awareness and perception around the issues. The surveys were then compared to available literature to understand the perception versus reality. Students were generally unaware of the negative impacts Tyson and Costco have which allow the companies to perpetuate their harmful behaviors, especially related to the human rights of migrant farmworkers.

Research Questions

Question 1: Are student's perceptions of industrial agricultural companies, such as Costco and Tyson, positive or negative?

Question 2: Are students aware of these issues?

Question 3: How do these perceptions affect issues of sustainability and environmental justice?

METHODS

Research Design and Approach

Through the literature review, Tyson and Costco were found to use destructive practices while claiming to prioritize human rights and the environment. A sample population was surveyed to measure awareness and perception of these issues to provide evidence of the discrepancies of public information versus actual practices.

The goal of this project was to understand the difference in perception of local large scale agriculture companies, Tyson Foods and Costco, and the realities migrant workers and the environment face within these companies. An online survey was created through the website typeform.com. The survey was presented in person to economics, environmental studies, introductory science, and sociology majors. The results were gathered and compared to a literature review. The literature review was conducted by researching Tyson Foods, Costco, CAFOs, the legal cases associated with these companies, past and current work conditions, and the impact on the environment.

Sampling Methodology and Data Collection

An online survey was presented in person to multiple UNL classes. Students from a wide variety of majors were surveyed to reduce the potential bias. The total sample size was 176 respondents, with a 100% completion rate and an estimated 57% response rate. Courses surveyed include: environmental studies, economics, introductory science, and sociology. Specifically, two SOCI 101 courses were surveyed, one of which had ~15 students while the other had ~50 students. The two environmental studies courses surveyed were ENVR 319 which had 37 students and ENVR 499A which had 14 students. The three economics courses surveyed were two sections of ECON 417 with ~35 students each and one ECON 321 course with ~75 students.

A SCIL 101 professor sent out the survey to current and previous SCIL 101 students, the number of which is unknown. These classes were chosen to gain a wide variety of perspectives as well as connections to professors within different majors. Professors were contacted based on connections because five minutes of the professor's class time was needed to give the survey. People of a variety of ages, limited to those taking a college course, were surveyed to understand the difference between a freshman versus senior level of understanding.

Descriptions of Instruments or Data Collection Tools

The online survey website, typeform.com, was used. This website offered the most engaging survey platform that would captivate students to obtain accurate results with a high rate of survey completion. Typeform provided styling options, a user-friendly platform, as well as data analysis tools for the completed surveys. The book, *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method*, by Don A. Dillman was used as a reference for creating a concise and understandable survey which could yield the largest sample, highest degree of question comprehension, and most unbiased results. Respondents were not given an incentive to complete the survey in order to reduce bias.

Demographic questions were asked to see if there were correlations in responses between areas such as age, ethnicity, and gender. The respondents were initially asked if they were aware of the companies. Then, they were asked if they related the companies to environmental sustainability and migrant worker rights. Lastly, demographic questions were asked to understand trends in the data. The intention was to create an engaging survey to captivate students to obtain higher results of survey completion and gain the most accurate results as possible. Surveys questions were as concise as possible and in plain language to ensure the respondents' understanding of the topic. Data was also collected through a literature analysis.

The two methods of data collection were compared to understand how these companies are perceived by Nebraska students compared to the reality of these companies' actions.

Data Analysis of Primary Sources

The data analysis compared the survey results (both closed-ended and open-ended responses) and the literature analysis. The survey results were compiled and analyzed to find instances of statistical significance, with assistance from the UNL Statistics Help Desk. The statistics and results were used to create figures and charts to understand the results through visual depictions. The compilation of these results allowed the understanding of the connections and differences between the perceptions and realities of these large companies.

Confidentiality Issues

The surveys were completely anonymous, all survey questions were optional, and respondents could opt-out at any point. The project will not be published so there was no IRB certification.

RESULTS

This study aimed to uncover if student perceptions of industrial agriculture showed awareness of the practices of both companies. Particularly, the companies Tyson Foods and Costco were researched because both run CAFOs in Nebraska. The goal of this study was to understand the student perception of Tyson and Costco in regard to environmental sustainability and the conditions migrant workers have to endure. Students were surveyed from courses in economics, environmental studies, introductory science, and sociology to gain a wide variety of perspective on the issue. Of the 176 students who clicked the survey link, there was a 100% completion rate and an estimated 57% response rate. The average time to complete the survey was 6 minutes and 41 seconds. The intent of obtaining a large volume of responses and high rate of survey completion was successful for the scope of this project.

95.5% of respondents had heard of Costco (*Figure V*). Of that 95.5%, 27% thought of Costco in relation to environmental sustainability (*Figure VI*) and 18% related Costco to human rights (*Figure VII*). Regarding Tyson, 82% had heard of the company (*Figure VIII*), while 29% of that 82% had thought of Tyson in relation to environmental sustainability (*Figure IX*) and 18% of that 82% had thought of Tyson in relation to human rights (*Figure X*). Further, more respondents commented that they knew Tyson Foods was not an ethical company, but many did not relate Costco to the same issues (*Figure XII*). Concentrated animal agriculture (which both Costco and Tyson use) is one of the leading causes of climate change, so the negative perceptions aligned with this fact (Cassuto 2010). Additionally, Tyson has repeatedly been under fire for the conditions their workers have endured (Peña 2003). The open ended question asked for additional comments or thoughts and opinions about the companies. Based on the results of coding the open-ended responses, the overall view of Costco was positive with a combined 17

positive comments and 10 negative comments (*Figure XII*). Contrastingly, Tyson had a net negative perception with 3 positive comments and 22 negative comments (*Figure XII*). The majority of the positive comments about Costco were regarding the convenience and enjoyability of the shopping experience, while the negative comments about Tyson primarily referenced their environmental practices and animal treatment (*Figure XII*). There were only 6 total comments regarding human rights: 3 positive and 1 negative comment(s) for Costco, and 1 positive and 1 negative comment for Tyson (*Figure XII*).

At 34%, respondents were primarily in their first year of school (*Figure I*). The next largest group was in their third year of school at 22%. Followed by students in their fourth year, at 22% (*Figure I*). 17% were in their second year, and 1% responded “other” (*Figure I*). The largest age distribution category was “other” which included primarily 18 year olds and people in their late twenties at 29% (*Figure II*). The next largest group were 19 year olds at 28% (*Figure II*). 23% of respondents were 20, 18% were 21, 13% were 22, and 3% were 23 (*Figure II*). The gender of the respondents was relatively evenly split between masculine (45%) and feminine (53.8), with little representation of other genders (2.5%) (*Figure III*). The Race/Ethnicity of the respondents was primarily White American or European at 80% (*Figure IV*). Asian American or Asian was the next largest group at 11%, African American or African made up 3%, Latinx American or Latinx made up 2% of the respondents, 2% preferred not to answer, 2% responded as other, and Middle Eastern American or Middle Eastern made up 1% of respondents (*Figure IV*). Based on reported income, the largest category was less than \$25,000/year at 29% (*Figure V*). Many respondents interpreted the question as personal income rather than parents income, although there was specification to list parental income if they were a dependent. The next largest group tied at 15% with greater than \$150,000 and between \$100,000-124,999 (*Figure V*).

13% fit into the \$75,000-\$99,999 category and the \$50,000-\$74,999 category (*Figure V*). 9% chose \$25,000-\$49,999. Lastly, 7% chose \$125,000-\$150,000 (*Figure V*).

As further explained in the Methods section, *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method* by Don A. Dillman was used to ensure the questions were not biased or, at least, to minimize bias. To avoid leading respondents to answering what they thought would make them seem of high morality, the questions were worded in a manner which did not directly talk about the poor conditions migrant workers face or the coinciding environmental issues (Dillman 2014). Classes were surveyed in different colleges and contrasting subjects: sociology, economics, introductory science and environmental studies.

There were a few relationships within the data which were statistically significant. All of the statistically significant results relate to Tyson Foods. When asked if respondents had thought of Tyson in relation to environmental sustainability, there was a significant difference between the proportion of masculine and feminine genders responses. Through a z test of two proportions, people with masculine genders were more likely to respond yes and the two-sided p value equaled 0.0415. When asked if respondents had thought of Tyson in relation to human rights, there was also a significant difference between the proportion of masculine and feminine gender responses. Respondents with masculine genders were more likely to respond yes with a two-sided p value of 0.0176. The self-reported major of each respondent showed a statistically significant association regarding the question over Tyson Foods and environmental sustainability, with a p value of 0.0013. Respondent majors were also statistically significant related to the question over Tyson Foods and human rights, with a p value of 0.0265.

DISCUSSION

Research Question Findings

The first research question was: are students' perceptions of industrial agricultural companies, such as Costco and Tyson, positive or negative? Based on the survey results, the majority of students have a neutral opinion regarding Costco and Tyson. The second research question was: are students aware of these issues? The majority of students were unaware of Tyson and Costco's negative association with environmental justice and environmental sustainability issues. Of those who did share their additional information about their opinions in the comments section, more felt a negative association with Tyson than Costco. The association was related to the environment and animal rights rather than human rights. The third research question was: how do these perceptions affect issues of sustainability and environmental justice? The public's general unawareness of the companies' destructive actions allows their behavior to be perpetuated.

Costco

As stated in the introduction, Costco, a bulk-supply retailer, is gaining grounds as a large meat supplier. The Costco plant recently built near Fremont, Nebraska is expected to process around two million chickens per week, aiming to supply 40% of Costco's poultry needs (Gerlock 2018). Both Costco and Tyson Foods use CAFOs in Nebraska, yet there is little awareness of Costco's impacts (*Figure VII, Figure VIII*). Concentrated animal agriculture, which both Costco and Tyson use, is one of the leading causes of climate change (Cassuto 2010). Based on the survey, Costco provides affordable food for people and buying in bulk at a lower rate per item is a feasible way for large families to affordably purchase groceries. Although these are important

qualities from a socio-economic lens, no respondent shared a negative view of Costco for their meat producing practices and coinciding social and environmental issues.

Costco brands itself as “a membership warehouse club, dedicated to bringing our members the best possible prices on quality, brand-name merchandise” (Costco Wholesale 2019). Costco has a sustainability commitment tab in the “About Us” section, in which they explain they strive to ensure their employees are treated well and “operate efficiently and in an environmentally responsible manner, and strategically source merchandise in a sustainable manner” (Costco Wholesale 2019). This is the perception Costco intentionally shares with the consumer population. There is no reason for people to believe otherwise, so this perception is often believed. Furthermore, Costco has not been under any intense controversy (like Tyson Foods) so respondents did not mention Costco in relation to the environment or view Costco negatively in terms of migrant workers. This perception versus reality is dangerous because it allows the company to continue with their negative habits that are affecting human lives and the environment.

A large portion of comments were general and avoided specifically talking about human rights or environmental sustainability. An overwhelming majority stated Costco as a good company in the “general” category. Popular comments included: “I shop at Costco often”, “free samples at Costco”, and “I like Costco”, answering the research question that for an overwhelming majority of respondents, issues of environmental sustainability and migrant workers’ rights are not at the forefront of their minds (*Figure XII*). Based on the comments, the overall view of Costco was positive, with fewer comments indicating that the respondent had a negative view of the company. The negative comments were often a part of a longer comment which also mentioned Tyson, whereas there were many individual comments which indicated a

negative view of the ethics of Tyson (*Figure XII*). In terms of sustainability, there were a few positive comments about the opportunity to buy in bulk through Costco (*Figure XII*). One respondent stated, “buying in bulk can sometimes help reduce packaging and I know Costco carries a lot of bulk” (*Figure XII*). A larger portion shared negative comments over Costco’s environmental sustainability, either grouping their response with Tyson or sharing that Costco uses a lot of plastic. One respondent stated, “Over production and waste is a big issue” (*Figure XII*). It is important to note that many of these comments did not stand alone and included Tyson as well. When discussing human rights, more respondents stated that Costco provides an avenue for migrant workers to obtain jobs, stating that Costco employs many people who need jobs, and in turn supports the economy. The research question was answered through the pattern that many people view Costco positively regarding human rights, and in general. Although the overwhelming view was positive, more people viewed Costco negatively in terms of sustainability rather than human rights. This brings into question why more people are aware of negative sustainability practices of companies rather than the treatment of workers, especially when the workers are primarily marginalized communities.

The skewed perceptions and unawareness surrounding Costco’s environmental sustainability and justice issues allow the company to perpetuate their behavior. Many residents of Nebraska are concerned about the plant that has been placed outside of Fremont with chicken barns in Lancaster county as well (Knapp 2018). Processing two millions chickens, weekly, creates many environmental issues such as methane release, contamination of nearby water sources, and airborne fecal matter finding its way near the homes of Fremont residents (Gerlock 2018). Migrant workers are affected by the industrial agriculture farming practices that include

monocropping and CAFOs that lead to undesirable work conditions and negative health effects (Pena 2003, Pfeifer 2016).

Tyson Foods

Tyson Foods is the world's second largest meat producer (Tyson Foods 2019). Tyson has a history of hiring migrant workers, but their working conditions are often a human rights issue (Peña 2003). These conditions include, but are not limited to, insufficient amounts of potable water, unsuitable housing conditions, and exposure to pesticide drifts (Peña 2003).

Environmentally, Tyson Foods has been in the midst of multiple controversies for actions which degrade the environment (RAN 2016). Tyson Foods has plants in Nebraska in Madison, Lexington, Dakota City, and Omaha (Tyson Foods 2019). These plants include CAFOs which are known to release greenhouse gases as well as pollute nearby water sources with nitrogen, creating toxic runoff (Jacques 2012). These detrimental aspects of CAFOs come from a large amount of animals being concentrated into one area, far above the ecological carrying capacity (Jacques 2012). Animals living in one very small area cause large amounts of methane to be released (Jacques 2012). Nitrogen runoff from cow flatulence and feces pollutes ground and surface water (Jacques 2012). These problems are not the only environmental issues related to Tyson Foods, but they are a primary concern. One major underlying factor in why Tyson Foods is treating their migrant workers inhumanely while degrading the environment is that they are putting profit over humans and the environment (Jacques 2012). This “profit over human lives and the environment” mentality also plays a part in the disruption and termination of many family farms. Family farming is about a symbiotic relationship between the land and the farmer (Wirpsa 1995). On the other hand, factory farming produces a lot of product at a very fast rate to increase profit (Cassuto 2010). The intentional overtaking of family farms is increasing the

degradation of the land, as well as increasing the output of greenhouse gases and other types of pollution (Cassuto 2010). Overall, Tyson Foods is creating an atmosphere that is dangerous for migrant workers and the environment.

According to Tyson's website, their values are to "sustainably feed the world" while always remaining "truthful, inclusive, and with integrity" (Tyson Foods 2019). They aim to "create an environment that is positive for customers and team members". They place emphasis on; "caring for the team who creates the food, embracing creativity, commitment to deliver results the right way, as well as remaining an atmosphere that is farm-to-table" (Tyson Foods 2019). Tyson Foods maintains that they are an employee-friendly, environmentally sustainable company. Although the ethics of Tyson are more controversial than Costco, these claimed shared values are still dangerous because it puts forth a false narrative that Tyson is trying their best to be as just and moral as possible. These claims have proven to be false time and time again.

Respondents in every major academic category surveyed (economics, sociology, introductory science, and environmental studies) left comments on the survey sharing their knowledge that Tyson Foods is not an ethical company (*Figure XII*). Specifically, many comments indicated that respondents knew about the negative treatments of the animals. Some of the comments specifically referred to popular documentaries over food production and the meat industry. The pattern in comments counters the idea that a random sample of students would be unaware of the environmental consequences surrounding industrial agricultural companies. The lack of knowledge surrounding migrant worker rights and the connections to Tyson's working conditions support the idea that a random sample of students would be unaware of human rights issues surrounding Tyson Foods. There has been an increase in public knowledge surrounding

animal treatment and environmental issues, so that college students with many different backgrounds can connect the company to these problems.

Interestingly, no students connected the issues to poor treatment of migrant workers. This phenomenon is telling of the attention given to the poor treatment of animals rather than poor treatment of marginalized peoples. One respondent commented: “I see more issues dealing with Tyson and animal rights, rather than human rights”, which is an example of this view (*Figure XII*). Only one out of 98 commenters stated anything negative about human rights, stating: “ I see these as having a profit > people culture” (*Figure XII*). Since animal treatment issues can become mainstream through popular documentaries, what is stopping human rights issues from occurring in the same places from gaining similar attention? This question could be used as the basis for future studies with UNL students as respondents. For many marginalized communities, this is an all-too-familiar feeling due to frequent comments such as “I had no idea” and “This is so terrible, why hasn’t anyone tried to do something about this” when there have been decades of tireless work by these communities to change their conditions without support of more privileged people or institutions. Issues which relate to animals and environmental preservation seem to be more palatable for more privileged communities which have the social and political power to make change, which leaves marginalized voices out of the conversation and perpetuates exploitation and other forms of discrimination. As discussed in the introduction, migrant farmworkers, a majority of which are undocumented workers from Mexico, face deplorable conditions and treatment for unfair wages (Pfeifer 2016). They are kept in this position through ever-changing immigration laws and practices which create a situation where legal immigration and work permits are difficult to obtain, pressuring many to workers to perform their job without

documentation. Looming threats of deportation lead to unchecked worker rights violations and no little to no social or legal power.

Connection to Literature

The skewed perceptions and unawareness surrounding Costco and Tyson's environmental sustainability and justice issues allow the companies to perpetuate their behavior. Residents of Nebraska are concerned about the plant that has been placed outside of Fremont (with additional chicken barns in Lancaster county) (Knapp 2018). Two millions chickens being processed on a weekly basis allows for many environmental issues such as methane release, contamination of nearby water sources, and airborne fecal matter finding its way near the homes of Fremont residents. (Gerlock 2018). Migrant workers are affected by the industrial agriculture farming practices that include monocropping and CAFOs that lead to undesirable work conditions and negative health effects (Pena 2003, Pfeifer 2016). The lack of awareness comes from intentional misinformation spread by the companies which does not allow the consumer to make informed decisions (Tyson, Costco 2019). Both Tyson and Costco do provide affordable products so it is important to be aware that some people can only focus their attention on their next meal rather than the issues surrounding the company that provides the cheapest option. Overall, more awareness of the issue through platforms like streaming websites will keep consumers informed and possibly force public pressure for these companies to change their habits. This study supports other cited work, through finding unawareness of human rights and environmental issues found in the literature review, which allows companies' poor behavior to continue.

CONCLUSION

Overview

This study was done to understand the student perception of industrial agriculture companies versus the reality of these companies' actions. The topic is important because the habits of these companies has disproportionate negative effects on migrant workers and the environment, which is perpetuated by the general unawareness of consumers. Surveys were given to nine UNL classes to understand their opinion on the topic. The survey results were compared to a literature review to better understand their perception versus the reality of the conditions. The questions addressed the study were: Are student's perceptions of industrial agricultural companies, such as Costco and Tyson, positive or negative? Are students aware of these issues? How do these perceptions affect issues of sustainability and environmental justice?

Interpretation of Findings

In conclusion to the first research question, the majority of respondents had a neutral opinion of both Tyson Foods or Costco in relation to environmental justice or environmental sustainability (*Figure VII, Figure VIII, Figure X, Figure XI*). When there were negative comments, they were generally aimed towards Tyson and their treatment towards animals (*Figure XII*). This viewpoint was likely brought on by popular documentaries about food and animal treatment in the last five years. Only one of the respondents thought of either company in relation to human rights. This answers the second research question (are students aware of these issues?), in that the general population is unaware of the negative work environment these companies allow that affects migrant workers and their families. The environmental impact was more known, but the majority of respondents did not mention that they were aware of the correlation. Lastly, to answer the third research question, it is important that the general

population is aware of these negative aspects of these companies so their ability to negatively affect migrant workers and the environment will come to a halt.

The negative effects the companies have on human rights and environmental sustainability issues were solidified in the literature review and support the findings of the survey. Large amounts of food must be grown in order to feed the large amount of animals produced in CAFOs. Industrial agriculture is a modern farming method to produce the large amount of food, which includes the practice of monocropping. Monocropping contributes to a lack of diversity in soil which leads to less resistant to pests and disease, thus more pesticides are used (Gaudin 2015). The pesticide usage is damaging to soil health, as well as to migrant workers health (Pfeifer 2016). The negative effects on migrant farmers are tied in with the environmental effects through the increase in pesticide poisoning with increased pesticide usage, which lead to short term and long term health effects (Pfeifer 2016). Undocumented migrant workers are forced to accept poor conditions due to threats of deportation and documented workers from Mexico and South American countries face racist and xenophobic treatment which reduces social and legal power (Peña 2003). This study found that Tyson and Costco's misinformation leads to lack of public awareness of these practices, which allows the perpetuation of these behaviors.

Recommendations and Reflection

This study looked to understand if there was a disconnect between general perception and the reality, and how that disconnect affects issues of environmental sustainability and human rights. The findings show that the environment and migrant workers are negatively affected by the actions of these companies. Due to this, future research could look into solutions rather than the understanding of public perception.

If the study were to be done again, the survey questions could have been worded differently to ensure the respondent's comprehension. Focus groups would have been conducted to understand individual opinion and allow respondents to elaborate on their answers.

APPENDIX A

Demographic Figures

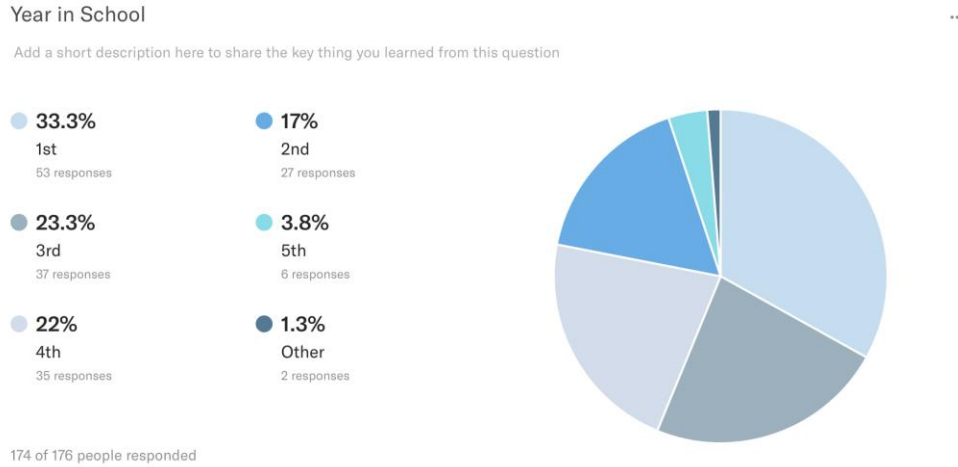


Figure I: The Year in School results were well distributed among 1st-4th year students.

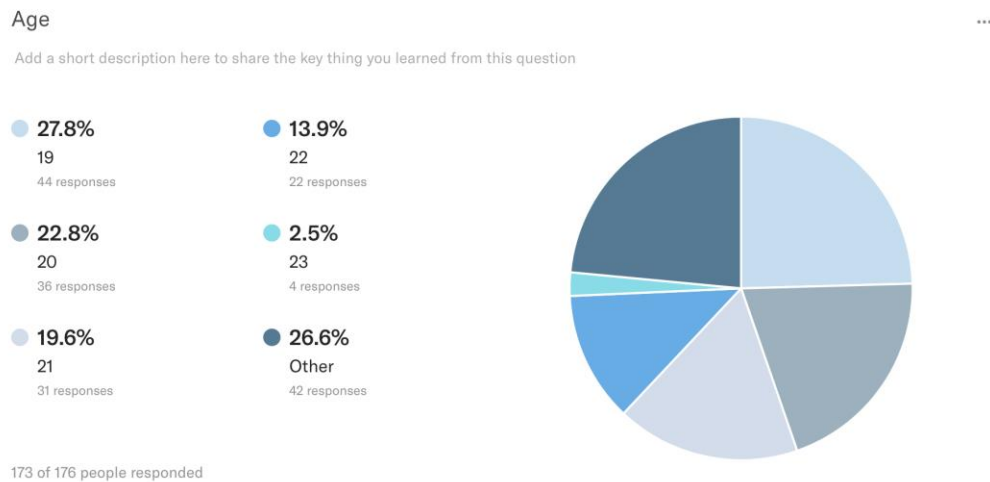


Figure II: The age distribution was relatively evenly split between ages 19-22, decreasing as age increased. In the other category, many people were 18 or in their late twenties.

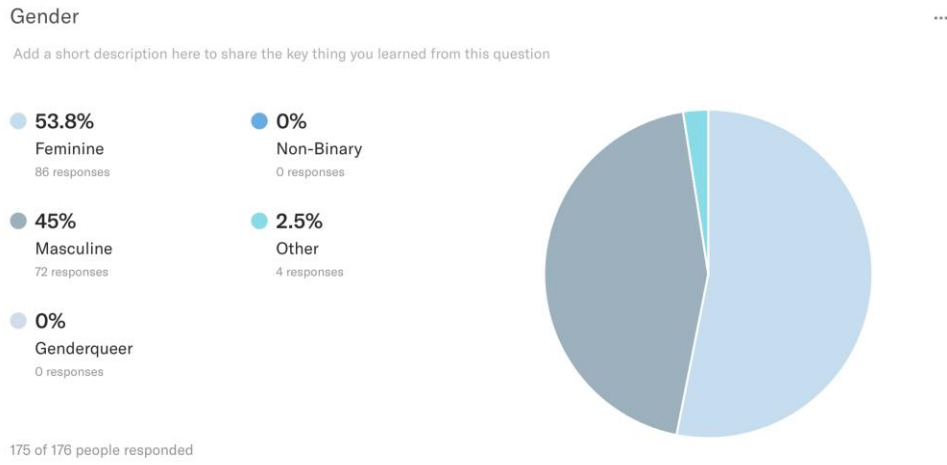


Figure III: The gender distribution was relatively evenly split between Masculine and Feminine, with very little representation of other genders.

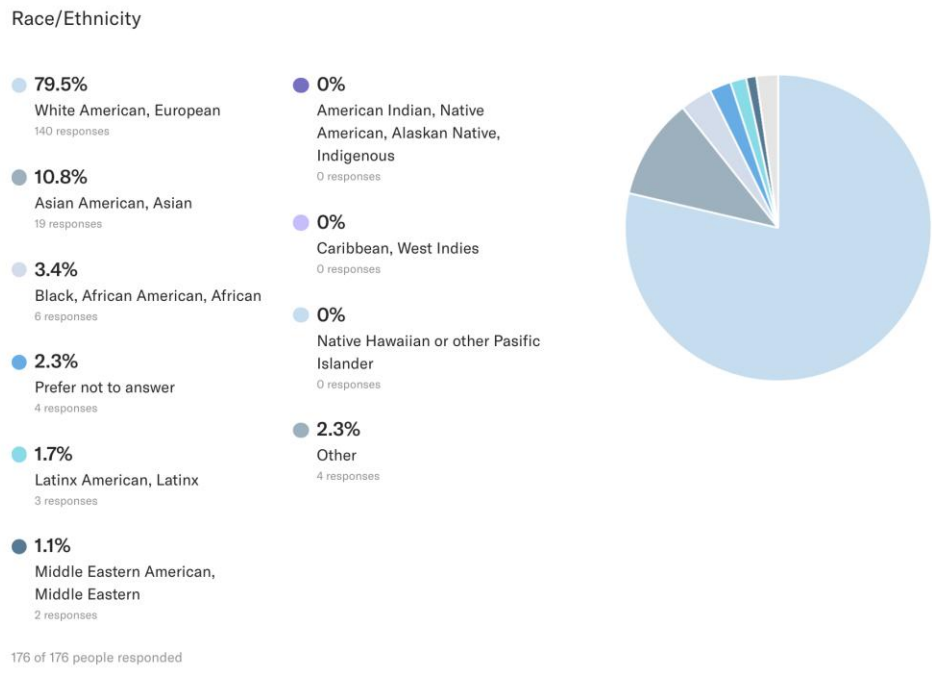


Figure IV: The Race/Ethnicity distribution was primarily white American/European, with lower percentages of other races/ethnicities.

Annual Income (or parent's income)

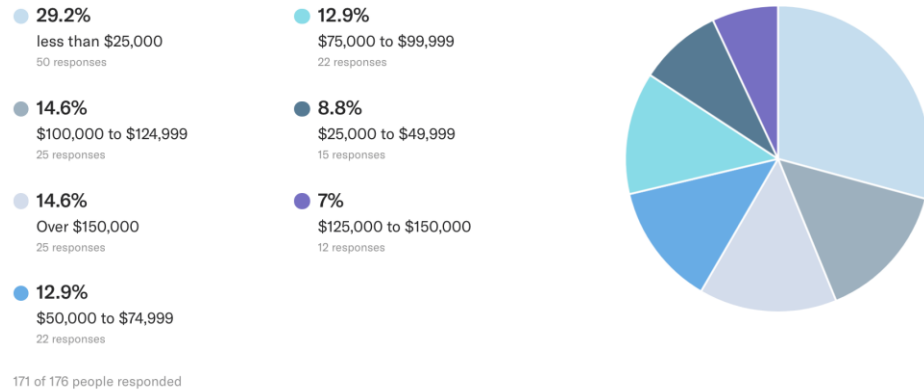


Figure V: The income of the respondent or, if more applicable, their parent's income had a mode of less than \$25,000. The other income levels were distributed relatively equally.

APPENDIX B

Survey Results

Have you heard of Costco (retail wholesaler)?

Add a short description here to share the key thing you learned from this question

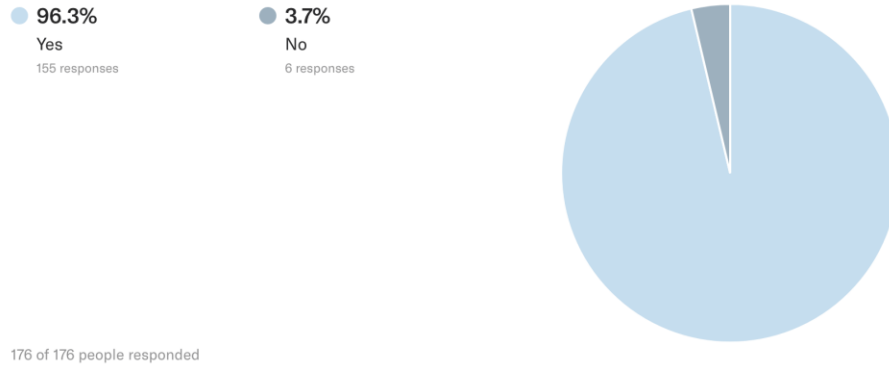


Figure VI: The vast majority of respondents had heard of Costco.

Do you think of Costco in relation to environmental sustainability?

Add a short description here to share the key thing you learned from this question

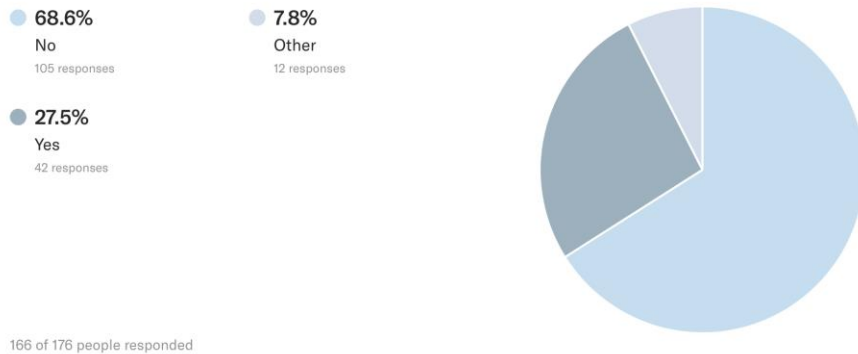
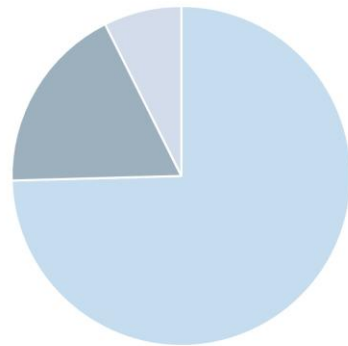


Figure VII: Of those who had heard of Costco, the majority of respondents do not think of Costco in relation to sustainability.

Do you think of Costco in relation to human rights?

...

Add a short description here to share the key thing you learned from this question



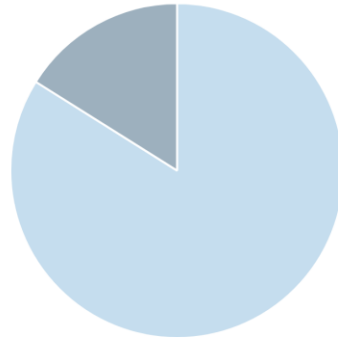
168 of 176 people responded

Figure VIII: Of those who had heard of Costco, the majority of respondents do not think of Costco in relation to human rights.

Have you heard of Tyson Foods (large meat producer)?

...

Add a short description here to share the key thing you learned from this question



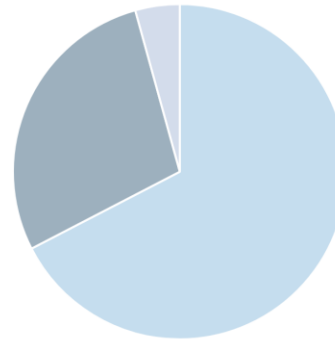
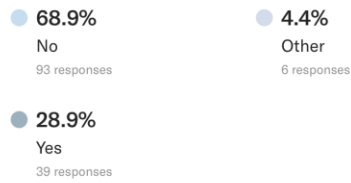
176 of 176 people responded

Figure IX: The majority of respondents have heard of Tyson.

Do you think of Tyson in relation to environmental sustainability?

...

Add a short description here to share the key thing you learned from this question



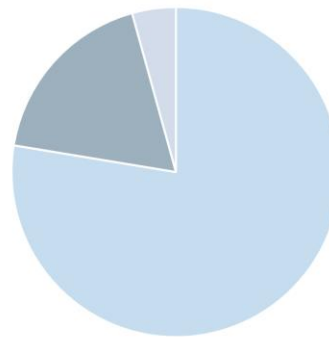
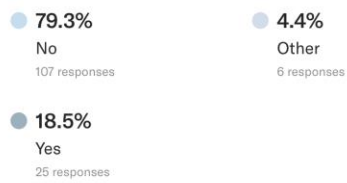
145 of 176 people responded

Figure X: Of those who have heard of Tyson, the majority of respondents do not think of Tyson in relation to environmental sustainability.

Do you think of Tyson in relation to human rights?

...

Add a short description here to share the key thing you learned from this question



145 of 176 people responded

Figure XI: Of those who have heard of Tyson, the majority of respondents do not think of Tyson in relation to human rights.

Costco Comments					
Sustainability		Human Rights		General	
Positive	Negative	Positive	Negative	Positive	Negative
2	7	3	1	12	2
Tyson Foods Comments					
Sustainability		Human Rights		General	
Positive	Negative	Positive	Negative	Positive	Negative
1	16	1	1	2	5

Figure XII: Of the 176 respondents, 53 left comments about Tyson Foods and Costco.

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