

The Role of the Risk Society in Eco-Labeled Food Purchases

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I. Introduction

In many ways, the supermarket is an idyllic space. Aisle after aisle of gleaming produce, fresh cuts of meat, and colorfully packaged snacks beckon you as you enter— in this world of abundance, you can get virtually any food you desire, as long as you're willing to pay. We take it for granted that we can buy blueberries in November or eat beef without having to butcher the cow ourselves, but in fact the choice of food available to residents of industrialized countries is remarkable, especially considering the declining number of farmers and ranchers in the industrialized world.¹ In the United States alone, the number of farms declined by 15% between 1982 and 2012 even as production rose, exemplifying a trend towards capital-intensive farms that maximize productivity while minimizing labor costs.² By the time the food reaches the supermarket, however, both the labor and the capital used to produce it disappear; products seem to miraculously appear on the shelves bearing no sign of the farm or the factory.

For shoppers, supermarkets can be sites of anxiety despite their convenience. The abundance supermarkets offer also means that shoppers have an overwhelming number of products to choose from. To cope, consumers must narrow down their options using some combination of criteria, often with a limited amount of information about the material conditions under which the food is produced. For this thesis, I aim to investigate the extent to which consumers' perceptions of one particular criterion—risk—shape their decision-making processes and purchasing decisions, in the hope of finding out how to assuage concerns about risk in the food system. My findings indicate that for people who regularly purchase eco-labeled food, perceptions of risk act as a major driver, especially in relation to pesticides. However, certain consumers prioritize conventionally-produced food or actively avoid eco-labeled food due to their belief that claims of risk in the food system are overblown. These results suggest that the nonspecific promotional claims used by eco-labeled food producers both assuage the concerns of certain consumers

¹ "Where Have All the Farmers Gone?" Worldwatch Institute.

² "2012 Census of Agriculture Preliminary Report Highlights: U.S. Farms and Farmers." USDA National Agricultural Statistics Service.

(particularly those concerned with bodily health) and cast doubt on the existence of risk in the food system for others, obscuring broader environmental and labor concerns for both groups.

II. Theoretical Framework

According to sociologists Ulrich Beck and Anthony Giddens, Americans (and other residents of industrialized countries) are living in a risk society. In essence, the risks around which American society organizes no longer come from non-human sources such as disease or natural disaster, but from the modernization process of society itself.³ It should be noted that “modernization” is a contentious term within sociology, due to its normative implication that a Westernized model of development is the only way to create the condition of modernity. Regardless of this critique, the modernization process is generally thought to incorporate varying degrees of industrialization and urbanization, which are important elements in the production and spatial distribution of risk respectively. More specifically, hazards produced as a result of the modernization process are known as manufactured risks, in contrast to the external risks produced by non-human sources.⁴ Because manufactured risk stems directly from human activity, societal institutions can reflect upon and alter its production in a process known as reflexive modernization.

From a theoretical standpoint, the reflexive modernization process is characterized by a questioning, re-examination, and fundamental reshaping of modern systems and institutions, often resulting from enhanced information flow.⁵ Yet these changes are often difficult to see. Rather than a revolutionary upheaval, reflexive modernization refers to “a change of industrial society which occurs surreptitiously... and with an unchanged, intact political and economic order implies a *radicalization* of modernity which breaks up the premises and contours of industrial society.”⁶ In other words, the condition of reflexive modernity does not

³ Beck, Ulrich, Risk Society, Towards a New Modernity.

⁴ Giddens, Anthony, "Risk and Responsibility."

⁵ Beck, Ulrich, Wolfgang Bonss, and Christoph Lau. "The Theory of Reflexive Modernization: Problematic, Hypotheses and Research Programme."

⁶ Beck, Ulrich, Anthony Giddens, and Scott Lash, Reflexive Modernization.

come into play holistically but rather piece by piece, slowly dismantling and replacing the components of industrial society. Both the concept of reflexive modernization and the recognition of large-scale consequences from industrial technologies that originally prompted the development of the risk society theory are relatively new; the modern environmental movement addressing the consequences of industrialization started in the 1970's, and Beck and Giddens began writing about the risk society and reflexive modernization in the 1990's. Given the recency of these developments, it is difficult to say how far society has progressed towards a condition of reflexive modernity since then, especially considering pushback from those interested in maintaining the existing order—for example, climate skeptics. However, policies such as the National Environmental Policy Act's requirement that environmental impacts be considered in federal agency actions and Ontario's experiments with basic minimum income as an alternative to the welfare state are aimed at mitigating risk in the long-term future, placing them at the forefront of the reflexive modernization process. The question then remains as to whether there have been attempts to elicit reflexive modernization within the food system, and if so, what mechanisms they use.

While Beck and Giddens primarily write about the risk society in the context of more traditional environmental concerns such as pollution or nuclear accidents, the concept can also be applied to industrial food production, another product of modernity. Producing food at the industrial scale has precipitated the use of new technologies; in particular, the Green Revolution of the post World War II era made use of fertilizers, pesticides, and high-yield grains to intensify agriculture on a global scale. These agricultural technologies have indeed increased food production, especially in the Global South, and potentially reduced the risks of hunger and starvation in the countries where they have been implemented.⁷ Yet as with other types of technology, the use of agricultural technologies to reduce the external risk of hunger has also created unforeseen manufactured risks for agricultural workers and ecosystems, such as higher rates of pesticide poisoning and a loss of

⁷ "Assessing the Impact of the Green Revolution, 1960 to 2000." Science.

biodiversity.⁸ In the context of the United States, the use of Green Revolution technologies has not been as closely tied to the idea of reducing external risk, as the American food system industrialized well before these technologies became viable on a large scale. Rather, Green Revolution technologies have been incorporated into the American food production system with the justification that they increase efficiency and that their widespread use in the United States expedites technology transfer to the Global South.

Industrially-produced food available to consumers in the Global North is thus characterized by the use of pesticides, fertilizers, high-yield grains, and other modern technologies regardless of its site of production. The production of food for mass consumption rather than subsistence also necessitates some distance between consumers and producers, since the industrial production system makes it easier for consumers to buy their food than to directly involve themselves in its production. By creating distance between itself and the average consumer, the industrial food system incorporates a certain degree of commodity fetishism, or the obscuring of the labor and material inputs that go into food production. In combination, these conditions of modern food production can cause anxieties among consumers. “We have a right to know what’s in our food,” a frequent refrain heard among supporters of labeling genetically modified organisms, encapsulates this anxiety nicely; people do not know exactly what goes into the production of their food, nor is it possible for them to find out without extensive research. Because a separation exists between consumers and the decision-making processes that lead to manufactured risks in the food system, certain groups of consumers desire more information about the inputs used in food production, or at least reassurance that the foods they consume do not contain inputs they already consider to be risky. In other words, although consumers in the Global North operate within a food system that by design provides limited information, for some consumers the desire to “know more” about the material conditions of food production is driven by a pre-existing suspicion of manufactured risk.

⁸ Pimentel, David. “Green Revolution Agriculture and Chemical Hazards.”

III. Situated Context

In order to fully understand consumers' notions of risk, it is important to contextualize them in time and space. Over the past few decades, both the United States and Europe have witnessed skepticism regarding inputs used in food production (such as genetically modified seed, pesticides, hormones, and antibiotics) and criticism of practices such as factory farming. To a certain degree, the European Union has addressed these concerns via a process of reflexive modernization, or change in the structure of institutions as a response to risk. More specifically, the European Union regulates genetically modified organisms and additives to animal feed (along with many other matters) using the precautionary principle, which assumes that these technologies carry inherent risks until a scientific consensus proves otherwise.⁹ As a result of the European Union's use of the precautionary principle as a regulatory guide, the aforementioned agricultural technologies must undergo extensive testing before they enter the EU market. The United States has not formally incorporated the precautionary principle into its regulatory framework, though the principle forms the basis for many environmental and food safety laws. For example, pesticides must be tested and approved by a regulatory body before use in both the United States and Europe, on the grounds that certain classes of chemicals pose risks to human health and the environment.¹⁰

¹¹ The most significant difference between the United States and the European Union's approaches to manufactured risk comes in response to genetically modified organisms; in the United States, genetically modified organisms are generally recognized as safe by the FDA, and only undergo federal testing if the genetic modification causes the expression of proteins that "differ significantly in structure, function, or quality from natural plant proteins."¹² Thus, while both regulatory bodies engage in reflexive modernization processes, they reflect and act upon slightly different subjects.

⁹ Recuerda, Miguel A. "Risk and Reason in the European Union Law".

¹⁰ "Pesticides and Public Health," U.S. EPA.

¹¹ "Approval of Active Substances," European Commission,

¹² "U.S. Regulation of Genetically Modified Crops." Federation of American Scientists.

While reflexive modernization processes occur at the systemic or institutional scale and are driven by those with access to information and capital as well as a desire to address risk, their power is upheld by public legitimation and support.¹³ A large portion of public support for changes in policy addressing risk depends upon the way that information about risk is disseminated and understood. In the case of food, labels can theoretically provide an important bridging point between the general public and the conditions of food production.¹⁴ The use of labels can also shape and be shaped by the processes of reflexive modernization. For example, in the European Union, foods containing greater than 0.9% genetically modified ingredients carry mandatory government labels, while in the United States all labels other than nutrition labels are voluntary.¹⁵ As a result, the United States has comparatively few products that claim to be produced with genetically modified ingredients, and a comparatively large number of products with non-GMO labels. In contrast, organic-labeled food is prevalent in both areas, as the regulatory mechanisms are virtually the same; in both the United States and the European Union, producers voluntarily adopt the organic label, but they must undergo a government certification process first. The certification standards are also essentially equivalent between the two areas.¹⁶ Yet regardless of the similarities and differences between U.S. and E.U. regulation, demand for both organic and non-GMO food has continued to rise in both areas—from 2011 to 2015, sales of organic food rose from €19 million to €36 million in the United States, and from €19.5 million to €27 million in the European Union.¹⁷ This increasing demand indicates that food system regulation that has been passed as part of the reflexive modernization process may not be enough to satisfy some consumers. If consumers have concerns that reflexive modernization has not yet addressed, they are likely to turn to other systems, such as the market, that allow them to avoid risks in the meantime.

¹³ Beck, Ulrich, Anthony Giddens, and Scott Lash, *Reflexive Modernization*.

¹⁴ Wognum et al., "Systems for Sustainability and Transparency of Food Supply Chains – Current Status and Challenges."

¹⁵ "Fact Sheet: Questions and Answers on EU's Policies on GMOs," European Commission.

¹⁶ "US-EU Organic Equivalency Arrangement." USDA Foreign Agricultural Service.

¹⁷ "Key Data on Organic Agriculture." Organic World.

Having located eco-labels within the theory of the risk society, given an overview of the processes that create manufactured risk in the food system, and provided contexts for how these risks are addressed, I now turn my attention to the situation in the United States, and more specifically Portland, Oregon. Despite their relatively niche position—organic food made up 4% of total food sales in 2015—demand for both organic and non-GMO food has been increasing steadily.¹⁸ In 2015, the most recent year for which data is available, American sales of organic food totaled \$43.3 billion, a new record for the industry.¹⁹ According to Whole Foods sales data, demand for non-GMO food has also gone up, with sales increasing a whopping 426% between 2010 and 2014. Sales of organic-labeled products at Whole Foods increased by 77% during the same time frame.²⁰ Within the United States, Portland is an especially strong market for organic, non-GMO, and other eco-labeled alternative foods. According to a market study conducted by Campbell's Soup and Sperling's Best Places, a website that aggregates data about U.S. cities, Portland residents are the most likely to seek out organic food when grocery shopping and eating at restaurants.²¹ Additionally, Portland's restaurant scene, increasingly well-known across the country, is characterized by a focus on seasonality and farm-to-table production. While the reasons for the regional popularity of alternative food are manifold and complex, they are likely connected to larger geographic and social trends across the metropolitan West Coast: mild climate and good soils that favor local food production, a widespread concern for the environment, and a history of alternative food movements.²² Through my work, I aim to understand Portland's demand for eco-labeled food in a broader theoretical context, one that extends beyond the West Coast.

IV. Methodology

¹⁸ U.S. Organic Sales Post New Record of \$43.3 Billion in 2015." Organic Trade Association.

¹⁹ Ibid.

²⁰ Schweizer, Erroll, "Organic and Non GMO Market Growth 2015."

²¹ "The 10 American Cities Most Obsessed With Eating Organic Food." The Huffington Post.

²² "Portland's Food Scene." Cooking Light.

Using firsthand research, I seek to answer two questions. Firstly, what scales of risk do consumers perceive from inputs used in food production? Secondly, to what extent do perceptions of risk influence consumers' purchases of organic and non-GMO food? To answer these questions, I use two methodologies: surveys and food packaging analysis. The surveys include three different sections; the first asks respondents to choose between conventional and eco-labeled versions of the same food, the second asks respondents to choose the factors that have the biggest influence on their purchasing decisions, and the third asks respondents to rate how safe they believe GMOs, pesticides, and organic food/organic farming are for consumer health, agricultural and food-processing workers, and the environment. In the survey, I primarily focus on organic and non-GMO labels (and the inputs related to them) because these labels are both widely recognized among consumers and applicable to many different types of food. Each section's questions serve a slightly different purpose. The first section is designed to mimic the process of selecting food in a grocery store, having consumers choose between a limited selection of products in order to get a sense of real-world purchasing behavior and isolate the factors that cause consumers to choose one food over another. Section two has the goal of getting respondents to reflect upon what they buy and why they're buying it, self-reporting the priorities, limitations, and information sources that influence their purchases. Finally, the third section aims to understand how consumers view the effects of food production at varying scales by asking them to consider impacts on several different actors. As a whole, the survey is intended to gather information that contextualizes the experience of purchasing food in the grocery stores within broader frameworks of decision-making.

My survey netted a total of 178 responses, the majority of which came from Reddit users. Originally, I had planned to administer the survey in grocery stores, in order to obtain a representative sample and get responses while people were already thinking about their food purchases. However, I experienced difficulties getting the requisite permissions from grocery store managers to give out surveys, likely because my activities would not have had direct benefits for the commercial functioning of the store. Consequentially, I shifted my focus to conducting surveys in

more community-focused spaces. To get responses from Portlanders in a wide variety of neighborhoods, I elected to post my survey on several Portland-focused internet communities: Craigslist, Rooster, Nextdoor, and the Portland forum on Reddit. Unfortunately, both Rooster and Nextdoor removed my post, since it contained a link that directed users to my survey on Google Forms. The Craigslist post got a few responses, but the number of responses really picked up once I posted the survey on Reddit, which tends to be more focused on community discussion and less focused on trading goods than Craigslist. This means that the demographics of my survey respondents are likely to reflect Reddit's demographics, which skew young, white, and male.²³ While not a representative sample, these demographics do provide important context for some of my results, which I will take into account in my analysis.

Young males are especially likely to use reddit

% of internet users in each age/gender grouping who use reddit

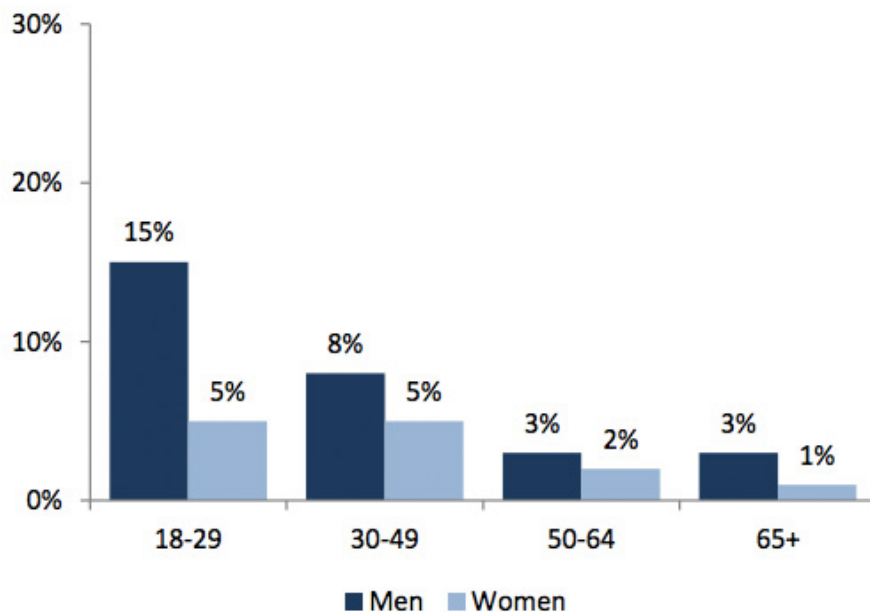


Figure 1: Reddit demographics, c/o The Atlantic

²³ "Reddit Demographics in One Chart." The Atlantic.

The second part of my methodology, a thematic analysis of food packaging, also focuses on the role of the grocery shopping experience in consumers' purchasing decisions. Because packaging often serves as the first point of contact between consumers and a particular food item, it has to relay a lot of information in a limited amount of space—in fact, studies have shown that packaging is one of the most important factors in purchasing decisions made at the point of sale.²⁴ Not only do packages aim to sell the product inside, they also market the product to a particular audience, provide nutrition information, and (in the case of eco-labels) give some insight into the conditions under which the food was produced. This packaging analysis has three primary goals: to determine whether risk-based narratives are present and/or prevalent in organic and non-GMO food packaging, to identify the narratives used to sell organic and non-GMO-labeled food, and to compare these narratives with those found on the packaging of conventionally-produced food. Performing this type of content analysis helps to clarify whether or not risk is a selling point for producers of organic and non-GMO food. To carry out this portion of the methodology, I looked at the packaging of common foods in five categories: packaged food (such as cereal, pasta, and soup); packaged snacks; meat/dairy/eggs; produce; and beverages. Based on the recurring patterns I observed, I then developed a system of narrative categorization, which I will describe in the results section.

V. Survey Results & Discussion

The first section of my survey asked respondents to choose between conventional and eco-labeled versions of the same food, with the questions phrased as “Which ____ would you be most likely to buy?” and the answer options formatted in multiple-choice style, allowing respondents to pick between two or three specific products with prices included (See Appendix 1). The majority of respondents stated that they would be most likely to buy the conventionally-produced food on every question but two. Only Simple Truth organic spaghetti and Kettle non-GMO potato chips beat their conventional counterparts. These outliers can be explained by price

²⁴ Pinya Silayoi and Mark Speece, “Packaging and Purchase Decisions.”

and taste respectively: the organic spaghetti cost the same as the conventionally-produced spaghetti, and Kettle chips have a taste that differs noticeably from the conventional option I included (Lay's). In the produce category, the conventionally-produced options received the majority every time. There was less consensus in the meat and dairy category, likely because I included vegan options in addition to conventional and eco-labeled meat and dairy products. However, conventional ground beef held a >50% majority and Tillamook cheese got a whopping 84.8% percent of consumer votes, indicating its regional popularity. In the packaged foods category, majorities were similarly slim despite there being only two food choices, due to the fact that more people chose the 'neither of the above' option than in the produce category. Greater differentiation exists between packaged foods than between produce—a banana is a banana, but no two name-brand breakfast cereals are alike—so it is not surprising that consumers might prefer packaged-food options that I did not list in my survey.

Part two of my survey dealt with the factors affecting consumer choices. Price had the biggest impact on respondents' food purchasing decisions, with 82.8% citing it as an influence and 53% of respondents citing it as one of the most important factors in their selection process (Fig. 2). Labels on packaging were the most widely-used source of information in consumer decision-making; 89.4% of respondents used nutrition labels and 44.7% used eco-labels to make their decisions, with both types of labels receiving more votes than any other information source (Fig. 3). Additionally, nutrition labels and eco-labels tied for the second most important factor in consumer decision-making; in the short-answer section asking consumers to cite the most important factors in their purchasing choices, both were cited by 26% of respondents. When asked which factors made them more likely to buy eco-labeled food, consumers cited concern for the environment, concern for personal health, concern for animals and the conditions under which they were raised, and taste as their top reasons. Many also mentioned that they were more likely to buy organic food than conventionally-produced food if the price was comparable. In fact, price was the biggest deterrent against purchasing eco-labeled food; 36% of respondents cited it as a limiting factor. 28% of respondents felt

turned off by the public portrayal of eco-labels, citing advertising, social media hype, misleading news stories, unsubstantiated claims, and the use of scare tactics (especially regarding GMOs) as factors that dissuaded them from purchasing eco-labeled foods. The marketing of eco-labels is clearly working on a large audience, considering the rise in sales of eco-labeled foods nationwide as well as their popularity in Portland. Therefore, I am inclined to believe that the skepticism towards eco-labels shown in my survey results stems partly from Reddit culture, which in my experience tends to value information from the hard sciences over information from the social sciences or journalistic sources. Unfortunately no peer-reviewed studies have been conducted on the sources of information that Redditors consider to be the most legitimate; however, it has been found that Reddit is quite self-referential, creating something of a groupthink effect.²⁵

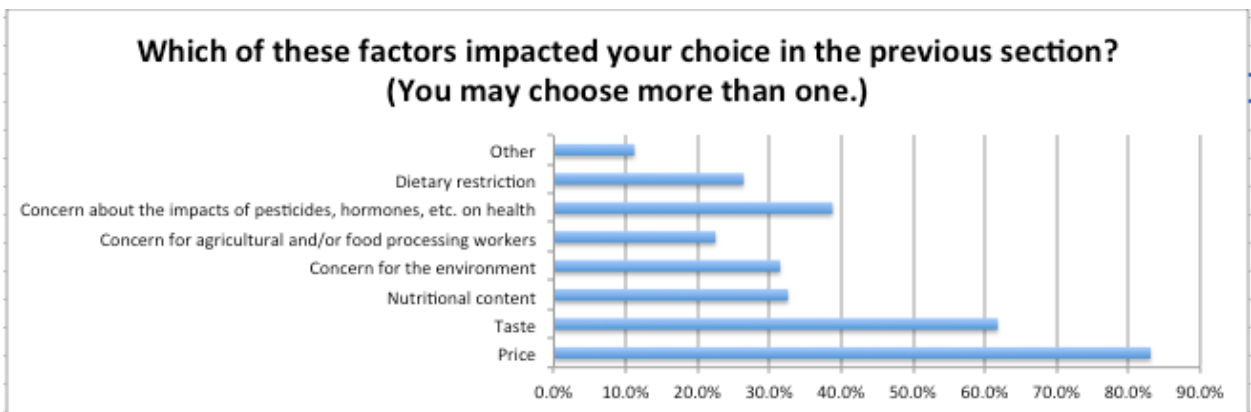


Figure 2: Factors affecting the choice between conventional and eco-labeled foods.

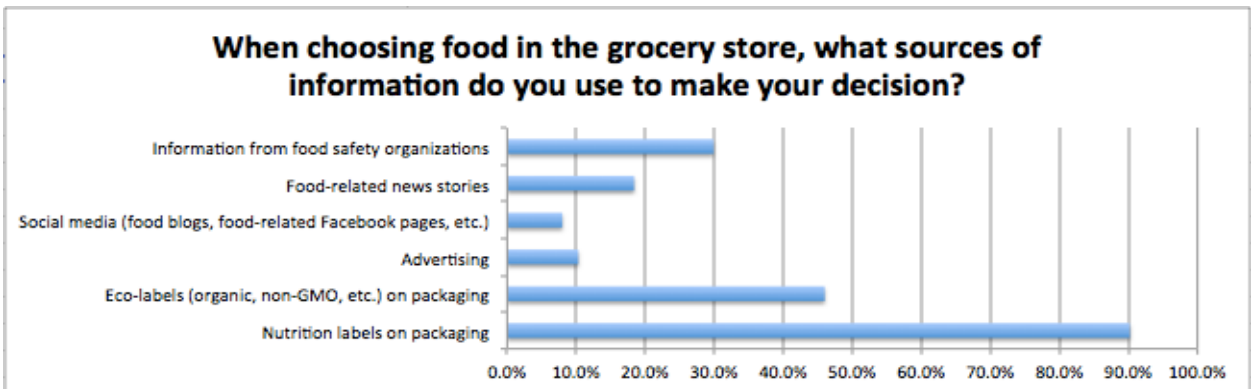
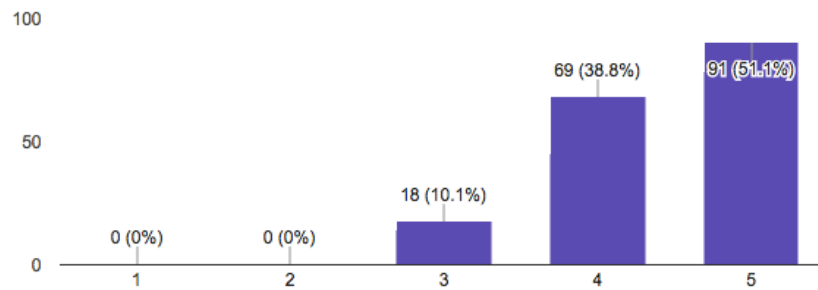


Figure 3: Information sources affecting the choice between conventional and eco-labeled foods.

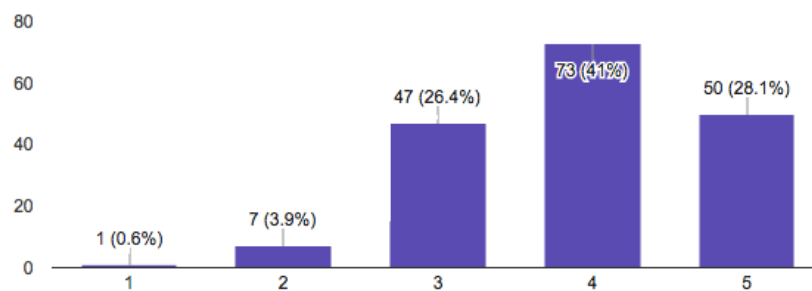
²⁵ Singer et al., "Evolution of Reddit."

Section three of the survey delved further into consumer perceptions of pesticides, GMOs, and organic food production, asking respondents to rate how safe they consider each input or practice for consumers, food production workers, and the environment. These actors were chosen because they are directly involved in food production or consumption and are therefore potentially impacted by risk in the food system. Additionally, these actors represent differing scales and degrees of separation from the consumer, making them a useful tool to see how consumers react to different types of risk. Among survey respondents, organic food was widely considered to be low-risk; 89.9% of respondents indicated that they believed it was safe to eat (Fig. 4), and 69.1% believed it was safe for both agricultural and food-processing workers and the environment (Figs. 5 and 6).

Organic food is safe to eat. (178 responses)



Organic food production is safe for agricultural and food-processing workers. (178 responses)



Figures 4-5: Consumer beliefs regarding the safety of organic food on a Likert scale, where 1 indicates 'strongly disagree' and 5 indicates 'strongly agree.'

Organic food production is safe for the environment. (178 responses)

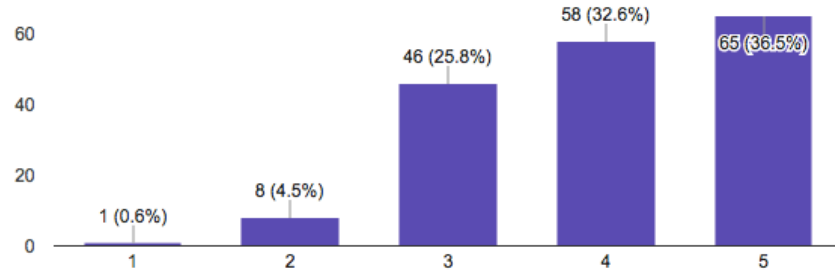


Figure 6: Consumer beliefs regarding the safety of organic food on a Likert scale, where 1 indicates 'strongly disagree' and 5 indicates 'strongly agree.'

69.6% of respondents also believed that GMOs were safe to eat (Fig. 7), and 60.1% believed they were safe for agricultural and food-processing workers (Fig. 8), although 26.4% were neutral or unsure about worker safety. Responses were mixed regarding the environmental effects of producing food with GMOs and the health effects of consuming food produced with pesticides, with each category (safe, unsafe, or neutral/unsure) receiving between 25% and 40% of responses (Figs. 9 and 10).

Food produced using GMOs is safe to eat. (178 responses)

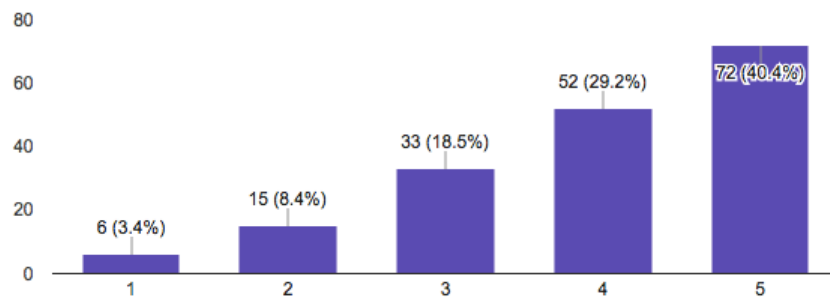
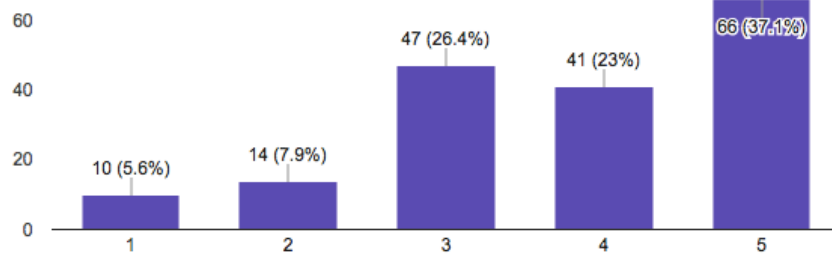


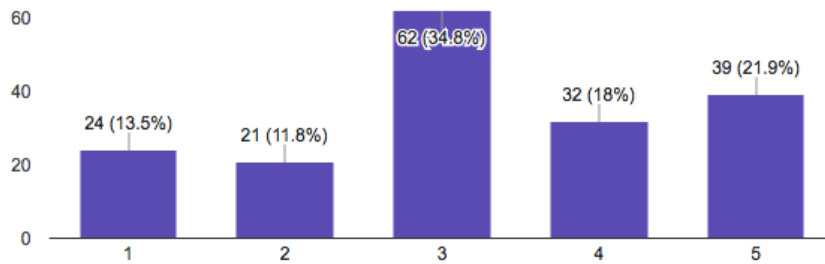
Figure 7: Consumer beliefs regarding the safety of GMOs on a Likert scale, where 1 indicates 'strongly disagree' and 5 indicates 'strongly agree.'

Producing food with GMOs is safe for agricultural and food-processing workers.

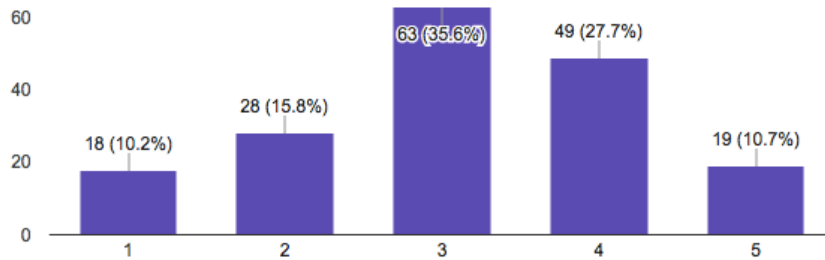
(178 responses)



Producing food with GMOs is safe for the environment. (178 responses)



Food produced using pesticides is safe to eat. (177 responses)

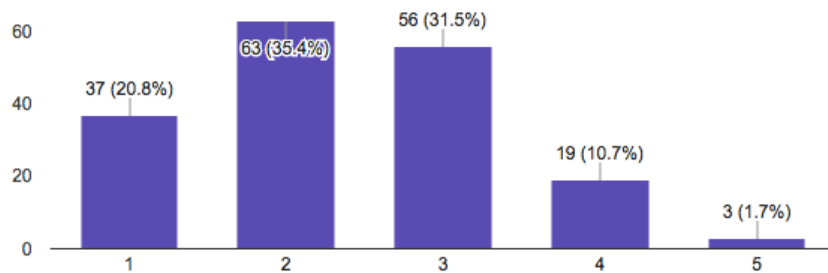


Figures 8-10: Consumer beliefs regarding the safety of GMOs and pesticides on a Likert scale, where 1 indicates 'strongly disagree' and 5 indicates 'strongly agree.'

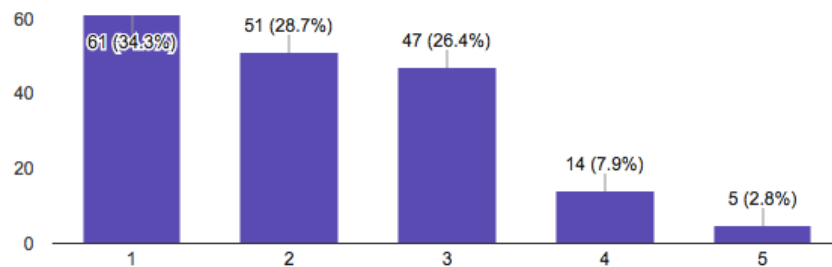
Finally, respondents indicated uncertainty/disbelief that the use of pesticides was safe for food production workers or the environment. 63% believed the use of pesticides were unsafe for the environment, and 26.4% were neutral or unsure (Fig 11). Regarding effects on workers, 56.2% stated that they believed pesticides were unsafe and 31.5% stated that they were neutral or unsure (Fig. 12); however, only one person cited concern for workers as a primary reason for buying eco-labeled food in the section prior. This indicates that proximity to risk may provide a stronger incentive than severity of risk for changing purchasing behavior in a context where risk exists at multiple scales.

Producing food with pesticides is safe for agricultural and food-processing workers.

(178 responses)



Producing food with pesticides is safe for the environment. (178 responses)



Figures 11-12: Consumer beliefs regarding the safety of pesticides on a Likert scale, where 1 indicates 'strongly disagree' and 5 indicates 'strongly agree.'

From a scholarly perspective, understanding how people conceptualize risk at different scales proves to be a challenge. Some scholarly work attempts to quantify how people judge the threat posed by a particular technology or practice using multiple factors. Most notably, in 1978 Baruch Fischhoff and his colleagues proposed a 'risk matrix' that plots risks along two axes: voluntary/known— involuntary/unknown and fatal/catastrophic—non-fatal/chronic.²⁶ More recent scholarship on topics such as climate change, air pollution, hurricanes, and toxic chemical release indicates that perceptions of risk are affected by both spatial proximity and personal experience.²⁷²⁸²⁹ However, there does not seem to be much research on the relationship between environmental risk and scalar (rather than geospatial) proximity; in other words, the existing literature does not explain how people prioritize themselves versus others who may be more severely affected in situations where the risk is not spatially bound. Nor does scholarship that deals with the non-spatial factors involved in risk perception address how people consider the effects on themselves versus others when assessing a particular threat.

Of the 178 survey respondents, sixty-five opted to elaborate further on their answers, with their explanations falling into several more nuanced categories. Eleven people echoed the idea that pesticide use poses risks to consumers, agricultural workers, and/or the environment, but the only risk repeatedly associated with GMOs was the possibility of monoculture cropping and a loss of biodiversity. Respondents were also very quick to defend GMOs; 12 people mentioned that GMOs are widely considered safe for consumption by the scientific community, and 11 people brought up potential benefits of GMOs including reductions in food prices and pesticide use, greater resistance to extreme weather conditions, and larger crop yields. Some associated similar benefits with pesticides as well. Thirteen people expressed an understanding of the complex nature of technology, pointing out that the effects of different inputs depend on their

²⁶ Fischhoff et. al, "How Safe is Safe Enough?"

²⁷ Lujala, Lein, and Rød, "Climate Change, Natural Hazards, and Risk Perception."

²⁸ Barton Laws et al., "Gender, Ethnicity and Environmental Risk Perception Revisited."

²⁹ Lindell and Hwang, "Households' Perceived Personal Risk and Responses in a Multihazard Environment."

structure and use; in a similar vein, seven people mentioned that both organic and conventional food production uses pesticides, and eight people mentioned that any type of industrial-scale farming is likely to have broad impacts. Finally, four stated that they simply do not know enough about agriculture to have a definite opinion. While consumer opinions about the safety of specific inputs and practices tended to lean one way or another in the aggregate, individual consumers typically fell into one of four groups based on their survey responses. Approximately one-third held views that reflected the survey results: skeptical of pesticides, fairly confident in the safety of GMOs, and somewhat likely to buy organic food if the price was not too high. Two much smaller groups, each representing about one-sixth of respondents, held strong views on opposite ends of the spectrum; one group was skeptical of both pesticides and GMOs and much more likely to prioritize eco-labeled food when they could afford it, and the other group was confident in the safety of both pesticides and GMOs and much less likely to buy eco-labeled food unless they preferred the taste. Finally, the remaining third of survey respondents held no strong opinions about pesticides or GMOs, and tended to choose food based on price.

VI. Packaging Analysis Results & Discussion

The views expressed by survey respondents dealt with the benefits and drawbacks of farming inputs and practices in a relatively concrete way, presenting a stark contrast to the narratives found on food packaging. Food packages almost universally relied on positive narratives, with only one item of the 54 that I analyzed—Cascadian Farm Honey Nut O's—making mention of any risk or negative consequence from food production. In this case, the product's packaging focused on declining bee populations, strongly implying that pesticides caused the issue but not directly implicating them. Instead, the box proclaimed, "Save the Bees!" and told customers they could help by choosing organic—specifically, Cascadian Farms Organic, which would donate 25 cents to bee population research if you entered the code on the box (printed in very small letters) on a particular website. This method, which seems somewhat ineffective considering the low likelihood of consumers taking the time to enter the code, nevertheless allows Cascadian Farms to portray

themselves not only as a less-harmful alternative but as an active force for ecological good. In this way, they twist a narrative that could be construed as negative (bees are dying...) into something hopeful (...but by buying Cascadian Farms products, you can do something about it.) Interestingly, although the Cascadian Farms box makes note of how organic farming has “contributed to reducing toxic pesticide use,” organic farming does use certain approved pesticides, which would be ineffective if they weren’t inherently toxic to particular organisms. While neonicotinoids, the class of insecticides most widely associated with bee deaths, are not approved for use in organic farming, this detail is irrelevant for Cascadian Farms’ marketing narrative.³⁰ It is easier to simply say “reducing toxic pesticide use” and let consumers come to their own conclusions based on the message, which often implies that organic farming uses no pesticides at all.

Most messages found on food packaging are subtler than Cascadian Farms’ cereal box, with virtually no direct mention of risk. (See Appendix 2 for full results). Through my thematic analysis, I have identified three narrative categories commonly used on packaging: authenticity narratives, health narratives, and social benefit narratives. Authenticity narratives, which are vague and subjective, include claims that the food is simple, natural, real, fresh, quality, or good. These narratives somewhat ironically play on the ideas of simplicity and whole foods espoused by many in the food world, such as the popular food writer Michael Pollan. While most authenticity claims are distributed fairly evenly between conventional and eco-labeled foods, there is a trend of eco-labeled foods using the phrase “made with goodness” (or similar wordings) on their packaging. This phrase presents a dichotomy, subtly implying that foods made with bad or untrustworthy ingredients exist but leaving consumers to define “good” and “bad” for themselves. Due to their vagueness, authenticity narratives play upon preexisting concepts of good/ bad and natural/unnatural.³¹ Through the use of authenticity narratives, packaging signals consumers who have preconceived notions that certain additives or inputs are risky,

³⁰ Electronic Code of Federal Regulations. Title 7: Agriculture, PART 205—NATIONAL ORGANIC PROGRAM.

³¹ Kniazeva and Belk, “Packaging as Vehicle for Mythologizing the Brand.”

with eco-labeled brands utilizing the knowledge that outside sources of information have created skepticism of inputs used in conventional farming. In order to sell products using authenticity narratives, especially with the added markup that eco-labels command, producers rely upon the existence of foods that consumers associate with risk and therefore have little incentive to work towards structural changes in the food system.

In contrast to authenticity narratives, health narratives are relatively specific and straightforward. Health narratives include claims that the product is low in calories, fat, sugar, or sodium; free from ingredients such as gluten and high fructose corn syrup or additives such as hormones and artificial flavors; or contains beneficial nutrients such as protein and fiber. These messages reflect Americans' focus on food as a source of nutrition, something that affects the body of the person consuming it above all else.³² The American obsession with nutrition stems in part from the use of mandatory nutrition labels, which simultaneously draw consumer awareness to the nutritional content of food and enable manufacturers to use nutritional information as a selling point since they are required to disclose it anyway.³³ This has interesting implications for the use of organic and non-GMO labels; because eco-labels are voluntary, producers can choose to include as much or as little specific information about the requirements of the label as they want. If labels requiring concrete information about the inputs used in the production of the labeled food were mandatory, perhaps producers would start to advertise using specific details about their beneficial or risk-reducing practices instead of relying on subjective binaries.

Bridging the gap between vague authenticity narratives and well-defined health narratives, social benefit narratives indicate that the company or product benefits someone or something other than the consumer, be it farmers (farmer-owned companies, use of family farms to produce ingredients), animals (vegetarian and vegan labels, claims that a product is safe for a certain species), or the environment (recycled/recyclable packaging). While these messages are fairly

³² Scrinis, Gyorgy, "On the Ideology of Nutritionism."

³³ Ibid.

specific and indicative of benefits that extend beyond the body of the consumer, they almost never reference direct impacts from food production. Eco-friendliness comes only from the recycled packaging, although packaging is one of the last stages in the chain that stretches from farm to grocery store; worker safety perhaps comes indirectly from farmer ownership of the company, although not all companies that produce commodities are farmer-owned and farmers generally have an incentive to do as much as they can within regulatory limits, which may encourage some degree of risk-taking. Packaging narratives also exclusively focus on American farmers who own their own land, erasing the role of migrant farmworkers and laborers involved in processing and packaging food, who face disproportionate degrees of risk in their work. As a final note, two other common claims, tastiness and convenience, do not easily fall into any of the other three categories. However, like nutrition labels, they focus predominantly on the experience of the consumer, often using specific information such as cooking times along with subjective claims about the taste of the product.

VII. Broader Implications

Looking holistically at the results of both methodologies, a broader picture emerges. While consumers focus more closely on price and nutrition when making purchasing decisions, their opinions regarding eco-labels are predominantly shaped by the push-pull between risk and benefit. Consumers who support organic and non-GMO labels do so because they believe the practices behind these labels help reduce harm. Even those who dislike eco-labels due to producers' reliance on controversial inputs still make the argument that controversial inputs have benefits that outweigh their risks. Thus, although some consumers recognize that any type of industrial-scale food production will have impacts on the landscape, many still have faith that solutions fitting within a free-market system (namely, voluntary eco-labels and new technologies created by industry) will help address systemic issues in the food industry. This has implications for the idea of reflexive modernity; rather than making changes *to* existing structures, the current public focus deals with making changes *within* existing structures. For reflexive modernization processes dealing

with food production to occur at the level of regulatory structures, there needs to be a certain degree of political consensus, which currently seems difficult to achieve given the contentiousness surrounding debates about the nature of risk in the food system. Instead, the free market fills the gaps, providing options for those who are skeptical of GMOs and certain pesticides—or at least, options for those who can afford it. The emergence of reflexive modernization processes therefore depends in part upon how well the market can alleviate consumer anxieties surrounding food.

What are these consumer anxieties that the market must address? Looking again at the survey results, it seems that consumers tend to focus on their bodies, their financial situations, and their environments when choosing what to purchase. Many recognized that some of the biggest risks stemming from food production are externalized and spatially distanced from consumers; for example, respondents inferred that pesticide use poses risks to agricultural workers, who indeed suffer from much higher rates of pesticide-related illness than the United States population as a whole.³⁴ Yet when it comes to decision-making, consumers prioritize individualism—protecting themselves from perceived health risks and attempting to create environmental change through individual consumption rather than looking at systemic factors that incentivize the creation of risk in the food system. Some might account for individual-centric behavior with the explanation that human beings are inherently selfish, but this seems reductionist given that the concept of individualism as we currently understand it did not emerge until the nineteenth century.³⁵ Rather, as the idea of individual choice has grown more important within the context of the market economy, it has also permeated other less explicitly economic areas, such as politics and education.³⁶ As a result, Americans and residents of other countries with predominantly free-market economies seem to understand large-scale change as a response to an amalgamation

³⁴ Calvert, Geoffrey, et. al. “Acute Pesticide Poisoning Among Agricultural Workers in the United States,”

³⁵ Macpherson, The Political Theory of Possessive Individualism.

³⁶ Eagleton-Pierce, Matthew. “On Individualism in the Neoliberal Period.”

of individual decisions, rather than a result of modifications to the framework within which decision-making occurs.

While the reflexive modernization process can include mechanisms that work using the free market, not all market mechanisms are necessarily a part of this process. Policies that fundamentally impact how a particular market functions, such as cap-and-trade permits that limit pollution by utilizing free market-inspired distribution mechanisms, address risk by gradually changing the system in which they operate without dismantling it entirely.³⁷ Other changes in the market, such as the current shift from fossil fuels to renewable energy sources like solar, attempt to simultaneously address risk and meet existing market demands through a transition from one technology to another.³⁸ Both changes in the regulation of a market and transitions from one type of technology to another can be considered part of the reflexive modernization process because they alter the functioning of the market itself. In contrast, the voluntary creation of green or eco-friendly products is not necessarily part of the reflexive modernization process even if these products incorporate lower levels of risk, because their creation does not change the structure of the market—eco-friendly products do not supplant or alter the production of their less-benign counterparts, they simply coexist alongside them. Thus, voluntary eco-labels are an example of the free market finding new niches to occupy, expanding itself rather than altering itself.³⁹

Within the context of the food system, as well as other areas where mass consumption has perceptual links to manufactured risks (such as consumption of fossil fuels via gasoline and home electricity use being linked to climate change), the idea of individual choice manifests in the form of “voting with your dollar.” In other words, the theory goes that if enough individuals decide that a particular commodity or input is risky, then they will purchase alternatives and the production of risk will cease. But as my survey results demonstrate, the combination of individualistic focus and vast differences in consumer opinions create a lack of

³⁷ Stavins, “A Meaningful U.S. Cap-and-Trade System to Address Climate Change.”

³⁸ Bang, “Energy Security and Climate Change Concerns.”

³⁹ Guthman, “The Polanyian Way?”

consensus about how to deal with risk—even widely acknowledged risks such as pesticide-related illness among farmworkers—using a market system. Producers of eco-labeled food also have an economic incentive to maintain the existence of purportedly risky food, not only because they can allude to it to make their product look better by comparison (as my packaging analysis indicates), but because the comparison also allows them to charge a higher price premium.^{40 41} And, as discussed in the theoretical framework section of this thesis, risks stemming from new technologies frequently do not become apparent until that particular technology is fully embedded in the market, making its use very difficult to change based solely on consumer demand. In short, then, the free market provides an imperfect mechanism for reflexively addressing risk in the food system. Many consumers seem relatively comfortable with their current position, whether because the market has provided options for them to avoid personal risk, because they are distanced from the most serious risks, because they believe that the benefits of agricultural technologies outweigh the risks, or because they believe that the idea of risk has been exaggerated by producers of eco-labeled food. Yet risk is more than a marketing tool; industrial producers of both conventional and eco-labeled food have economic incentives to conceal any risks they produce from consumers, even if many of their practices are beneficial.

With the incentives and actions of producers in mind, further research is needed on how consumers deal with risk within the constraints of the market. My study looks at consumers' perceptions of risks within the context of eco-labels and their associated technological inputs, but consumers may use other frameworks beyond eco-labels to deal with their perceptions of risk as well. One study I found in my initial research explores a phenomenon known as compensatory consumption, where people in positions of low power are more likely to increase their

⁴⁰ Jaenicke, Edward C., and Andrea C. Carlson. "Estimating and Investigating Organic Premiums for Retail-Level Food Products."

⁴¹ Gabriel, Andreas, and Klaus Menrad. "Cost of Coexistence of GM and Non-GM Products in the Food Supply Chains of Rapeseed Oil and Maize Starch in Germany."

consumption and are willing to pay more for items associated with high status.⁴² Psychological research has indicated that people tend to engage in compensatory consumption in both a precautionary and a reactionary way against self-threats, or stimuli that cause them to question their perception of themselves.⁴³ However, there seems to be relatively little research on compensatory consumption as a means for coping with threats to physical entities (the body, the environment) rather than the psyche. In the case of eco-labeled food, consumption seems to be directly tied to the idea that conventionally-produced food presents physical risks, but the extent to which consumers believe that eco-labeled food can address these risks still deserves further exploration. Other consumer goods with labels that purportedly address risk, such as paraben-free shampoos, dioxin-free tampons, and conflict-free diamonds, have recently been gaining traction in the marketplace; as markets continue to find ways to assuage and play upon consumer anxieties, it becomes increasingly important to understand how these interactions play out.

VII. Possible Solutions

While the research presented in this capstone sheds light upon how risk perception shapes the relationship between consumers and the way food is marketed and produced, the question, “What is to be done?” still remains. The existence of eco-labels seems to assuage many consumers’ concerns about risk in the food system, but since commodity fetishism still obscures consumers’ views of risks that have not yet received public attention, their concerns may be misplaced. Thus, because consumers do not have perfect information, markets cannot effectively address risk based on consumer demand. Several alternative possibilities for addressing risk in the food system exist: providing consumers with more accurate and transparent information on food labels, utilizing media to draw attention to a wider variety of issues within the food system, or circumventing the market to introduce new legislation dealing with risk. Although each of these possibilities deserves a comprehensive study of its own, in this section I will draw

⁴² Rucker and Galinsky, “Desire to Acquire.”

⁴³ Kim and Rucker, “Bracing for the Psychological Storm.”

on previous scholarship to explore their advantages and pitfalls. I focus on the viability of the ideas within existing institutions rather than in the context of the current political climate, as this is highly variable; political behaviors are themselves shaped by how effectively political, economic, and cultural institutions are implemented, maintained, and updated, so it is necessary to evaluate the potential of changes to these institutions.⁴⁴

In the previous section, I critiqued the idea of “voting with your dollar” as an extension of neoliberal ideology that prioritizes individual rather than collective action as a means of creating political and social change. Given this context, it may seem incongruent to suggest the continued use of eco-labels with more transparent and comprehensive information; after all, change would still be tied to the behavior of individual consumers. However, creating more transparent eco-labels would address the commodity fetishism that prevents well-intentioned consumers who already have an interest in purchasing eco-friendly food from making genuinely informed choices. As mentioned previously, research on nutrition labels indicates that disclosure of nutrition information facilitates its use.⁴⁵ In other words, when complete information is made clearly available on every product, consumers are more aware of it and more likely to use it. While increased transparency in the case of either nutrition or eco-labels does not negate external factors such as price concerns and personal taste, it does have the potential to shift consumer decision-making paradigms by increasing the number of factors that are made easily available for consideration. Of course, it is difficult to predict how consumers would react to having multiple labels available; at least one study has shown that using multiple nutrition labels actually acts as a hindrance against consumer use of nutritional information, since consumers find the presence of multiple sources of information confusing.⁴⁶ However, the difference in the types of information presented on nutrition versus eco-labels may make their coexistence easier to

⁴⁴ Finne more and Toope, “Alternatives to ‘Legalization.’”

⁴⁵ Wang, Fletcher, and Carley, “Consumer Utilization of Food Labeling as a Source of Nutrition Information.”

⁴⁶ Barreiro-Hurle, Gracia, and De-Magistris, “The Effects of Multiple Health and Nutrition Labels on Consumer Food Choices.”

understand. Additionally, numerous studies have indicated that the design and clarity of nutrition labels affects the extent to which people use them as part of their decision-making process at the point of sale.⁴⁷ If comprehensive eco-labels can be designed in a clear, easy-to-read, and eye-catching fashion, then some consumers may even begin to prefer them to nutrition labels (which in their current form are fairly dense) as an information source on packaging.

Continuing the theme of supplying consumers with more information, it is interesting to consider the role of the media in communicating risk. While labels seem to be a more widely-used and widely-trusted means of communicating information, at least among my survey respondents, the media remains influential for many people. When people lack the time and mental energy to process large amounts of information, they turn to media sources that they believe will provide them with the most relevant news, which also has the effect of generating public pressure for governments to react to widely-covered news stories.⁴⁸ In the past few decades, mass media has played an important role in publicizing food-safety issues such as mad cow disease and *E. coli* outbreaks at restaurants like Chipotle and Jack In the Box, resulting in changes to agricultural policy in the United States and Europe.⁴⁹ However, the mass media also has some features that prevent it from providing the most accurate and relevant information. The majority of newspapers and television stations in the United States are privately owned, creating an incentive to generate profits by attracting the largest audience possible.⁵⁰ Because viewers value negative information more highly, this means that media outlets are more likely to run stories that can be sensationalized in a way that plays on their audience's preexisting concerns, similar to the way that authenticity narratives are used on food packaging.⁵¹ Some have pointed to social media and the Internet as a way to counteract this tendency, as Internet communication tends to be more democratic; theoretically, anyone with an Internet connection can post their

⁴⁷ Cowburn, Gill, and Lynn Stockley. "Consumer Understanding and Use of Nutrition Labelling."

⁴⁸ McCluskey and Swinnen, "The Media and Food-Risk Perceptions."

⁴⁹ Britwum, Kofi, and Amalia Yiannaka. "Changing Food Safety Risk Perceptions."

⁵⁰ Noam, Media Ownership and Concentration in America.

⁵¹ McCluskey and Swinnen, "The Media and Food-Risk Perceptions."

viewpoints and experiences. However, social media also contributes to information overload, which can result in viewership going to those who can draw the most attention to themselves via clickbait titles and entertaining content—doubly so when the platform allows content producers to earn money from advertising revenue.⁵² The wide variety of perspectives for which the Internet creates a platform can help create more nuanced views of risk in the food system, but only if the tools are used effectively to combat misinformation in a way that still captures the attention of an audience.

Finally, there is the question of using political means to change the food system. On paper, this looks like the most efficient method, as it targets producer actions directly rather than using consumers as a proxy to incentivize change in production methods. There is also a historical basis for addressing food system risk using the political system; in 1906, the Pure Food and Drugs Act and the Meat Inspection Act were passed after the publication of *The Jungle*, Upton Sinclair’s shocking exposé of practices within the meat industry.⁵³ In 1938, the Pure Food and Drugs Act was replaced with the stricter Food, Drug, and Cosmetics Act, which included premarket drug testing among its requirements, in response to the death of 107 people from Elixir Sulfanilamide, an improperly prepared antibacterial medication that contained the poisonous solvent diethylene glycol.⁵⁴ Between 1954 and 1960, further laws including the Miller Pesticide Amendment, the Food Additives Amendment, and the Color Additive Amendment were passed to preemptively address potential safety issues stemming from new technologies used in food production; the Food Additives Amendment included a section known as the Delaney proviso, which prohibited food additives known to cause cancer. Pesticides were exempted from the Delaney proviso in 1996.⁵⁵ After the 1970s, political forces began to favor less regulation and the passage of food safety-related laws slowed. Finally, the Nutrition Labeling and Education Act passed in 1990, essentially

⁵² Rutsaert et al., “Social Media as a Useful Tool in Food Risk and Benefit Communication?”

⁵³ Parmenter, “The Jungle and its Effects.”

⁵⁴ Janssen, “Outline of the History of U.S. Drug Regulation and Labeling.”

⁵⁵ “Milestones in U.S. Food and Drug Law.” U.S. FDA.

requiring food producers to provide the nutritional information that many were already providing in response to consumer demand.⁵⁶

You may notice a recurring theme among these pieces of legislation; regulation of the food system in the United States has thus far focused on food safety for consumers rather than upon safe practices within the industry as a whole, further solidifying the focus on the individual as the target of risk reduction. Only in the past few decades have system-wide safety issues come into focus, and these have been left to the free market to address. Farmers who avoided Green Revolution-era agricultural technologies have been differentiating their products with the “organic” label since the 1970’s, but rather than responding to market demand by requiring universal transparency as it did with the nutrition label, Congress simply created its own set of organic standards that producers could choose to follow, embedding organic labels firmly within the market.⁵⁷ If consumers are satisfied with the interplay between federal standards and free-market food producers, as they currently seem to be, then the public pressure that can lead to political action vanishes even if risks to workers and the environment still remain. If the food system is to be changed through political means, then the public’s attention must be diverted away from their roles as consumers and towards their roles as political actors.

At the end of this process, I am left with no clear answers about how risk in the food system can be meaningfully and realistically addressed. But I hope that through my work, I have contributed to a more nuanced understanding of how consumers and eco-labels interact with one another, and how both fit within the broader context of a late-industrial food system.

⁵⁶ Moore, “Food Labeling Regulation.”

⁵⁷ “History of Organic Farming in the United States.”

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Organic/Non-GMO Survey



QUESTIONS

RESPONSES 178

Section 1 of 3



Food Preferences Survey

For this section, choose which version of each product you would be most likely to buy on a typical trip to the grocery store. Please answer honestly! There are no right or wrong answers.

Which bananas would you be most likely to buy? *

- Regular bananas- \$0.69 per pound
- Organic bananas- \$0.79 per pound
- Neither of the above

Which apples would you be most likely to buy? *

- Regular apples- \$1.79 per pound
- Organic apples- \$2.39 per pound
- Neither of the above





QUESTIONS

RESPONSES 178

Which lettuce would you be most likely to buy? *

- Regular lettuce- \$1.29
- Organic lettuce- \$1.89
- Neither of the above

Which onions would you be most likely to buy? *

- Regular onions- \$0.49 per pound
- Organic onions- \$0.89 per pound
- Neither of the above

Which tomatoes would you be most likely to buy? *

- Regular tomatoes- \$0.99 per pound
- Organic tomatoes- \$1.69 per pound
- Neither of the above





QUESTIONS

RESPONSES 178

None of the above

Which cheese would you be most likely to buy? *

- Tillamook cheese- \$4.19
- Organic Valley organic cheese- \$4.99
- Daiya dairy-free cheese- \$4.99
- None of the above

Which eggs would you be most likely to buy? *

- Regular eggs- \$1.29
- Cage-free eggs- \$2.49
- Organic eggs- \$5.99
- None of the above





QUESTIONS

RESPONSES 178

None of the above

Which burger meat or alternative would you be most likely to buy? *

- Regular ground beef- \$5.99
- Organic ground beef- \$8.99
- Gardenburger vegan black bean patties- \$3.89
- None of the above

Which cereal would you be most likely to buy? *

- Honey Nut Cheerios- \$2.99
- Cascadian Farm Organic Honey Nut O's- \$3.59
- Neither of the above

Which pasta would you be most likely to buy? *

- Barilla spaghetti- \$1.49
- Simple Truth organic spaghetti- \$1.49
- Neither of the above





QUESTIONS

RESPONSES 178

Which chips would you be most likely to buy? *

- Lay's potato chips- \$3.19
- Kettle non-GMO potato chips- \$3.79
- Neither of the above

Which cookies would you be most likely to buy? *

- Oreo sandwich cookies- \$2.99
- Newman's Own organic sandwich cookies- \$4.69
- Neither of the above

After section 1 **Continue to next section** ▼

Section 2 of 3



Food Preferences Survey

For this section, think about the factors that went into your decisions about which foods to buy. Choose the answers that best reflect your thought processes.





QUESTIONS

RESPONSES 178

- Nutritional content
- Concern for the environment
- Concern for agricultural and/or food processing workers
- Concern about the impacts of pesticides, hormones, etc. on personal health
- Dietary restriction
- Other...

When choosing food in the grocery store, which sources of information do you use to make your decision?

- Nutrition labels on packaging
- Eco-labels (organic, non-GMO, etc) on packaging
- Advertising
- Social media (food blogs, food-related Facebook pages, etc.)
- Food-related news stories
- Information from food safety organizations





QUESTIONS

RESPONSES 178

Do any of the factors listed above make you MORE likely to buy organic or non-GMO food? Please explain. *

Long answer text

Do any of the factors listed above make you LESS likely to buy organic or non-GMO food? Please explain. *

Long answer text

After section 2 Continue to next section

Section 3 of 3



Food Preferences Survey

For this section, indicate how much you agree or disagree with each statement. If you think of further clarifications or explanations while marking your answers, please write them in the section at the end. Please answer honestly! There are no right or wrong answers.

Food produced using pesticides is safe to eat.

1 2 3 4 5

Strongly disagree

Strongly agree





QUESTIONS

RESPONSES 178

Organic food is safe to eat. *

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Producing food with pesticides is safe for agricultural and food-processing workers. *

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Producing food with GMOs is safe for agricultural and food-processing workers. *

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Organic food production is safe for agricultural and food-processing workers. *

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree





QUESTIONS

RESPONSES 178

Producing food with GMOs is safe for the environment. *

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Organic food production is safe for the environment. *

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Please explain or comment on any of your above answers.

Long answer text
.....



Packaged food	Simple	Natural	Real	Good
Quaker granola				
Quaker oatmeal				
Honey Nut Cheerios				
Cinnamon Toast Crunch				
Cascadian Farm Honey Nut O's				
Kashi Organic Berry Fruitful cereal				
Barilla spaghetti				
Simple Truth Organic spaghetti				
Buitoni tortellini				
Uncle Ben's rice				
Annie's mac and cheese				
Pacific soup				
Oroweat whole wheat bread				
Dave's Killer Bread				
Gabriel's bagels				
Mission tortillas				
Michelina's pepperoni pizza snacks				
Amy's cheese pizza snacks				
Produce				
Fresh Selections mixed greens				
Organic Girl spinach				
Simple Truth diced tomatoes				
Halos mandarins				
Hurst's blueberries				
Central West organic blueberries				
Ocean Spray fresh cranberries				
Snacks				
Kettle potato chips				
Erin's popcorn				
Triscuit crackers				
Back To Nature crackers				
Mary's Gone crackers				
Nature Valley bars				
Clif bars				
El Restaurante tortilla chips				
Mission organic tortilla chips				
Cheetos				
Simply Cheetos				
Beverages				
Celestial latte mix				
Califia Farms iced coffee				

Folgers 100% Colombian coffee
Starbucks hot cocoa mix

Florida's Natural orange juice

Meat/Dairy/Alternatives

Johnsonville bratwurst

Van de Kamp's fish sticks

Applegate Naturals deli ham

Foster Farms Simply raised chicken

Hip Chick Farms chicken fingers

Private Selection Angus beef burgers

Boca veggie burgers

Alpenrose 2% milk

Horizon organic milk

Almond Breeze almond milk

Tillamook cheese

Cherry Lane eggs

Stiebrs Farms cage-free eggs

Simple Truth cage-free eggs

Red = Conventional

Green = Organic/Non-GMO



Quality

Fresh

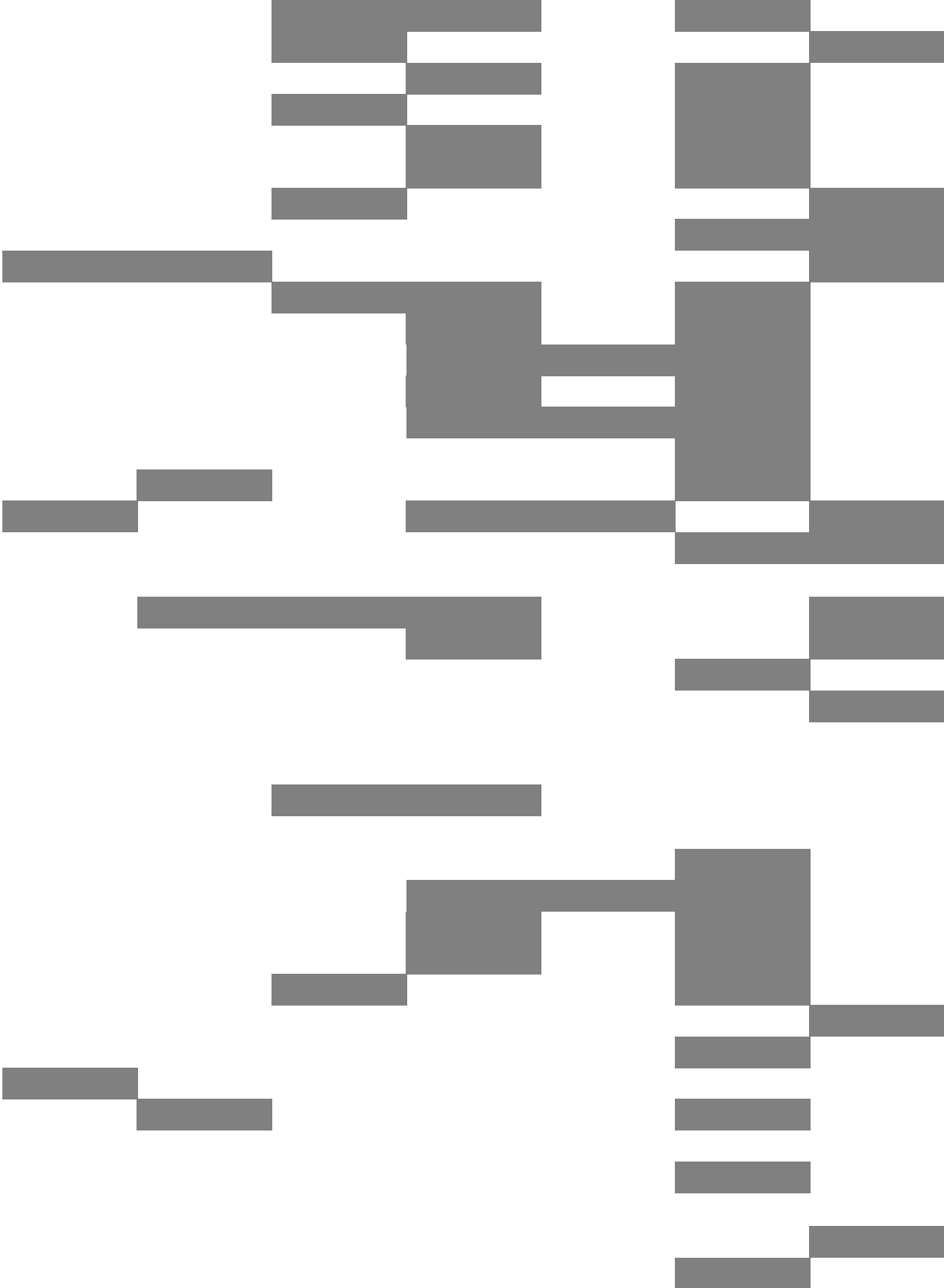
Healthy

Nutritious

Low-calorie

Free-From

Convenient





Tasty

Local/U.S.

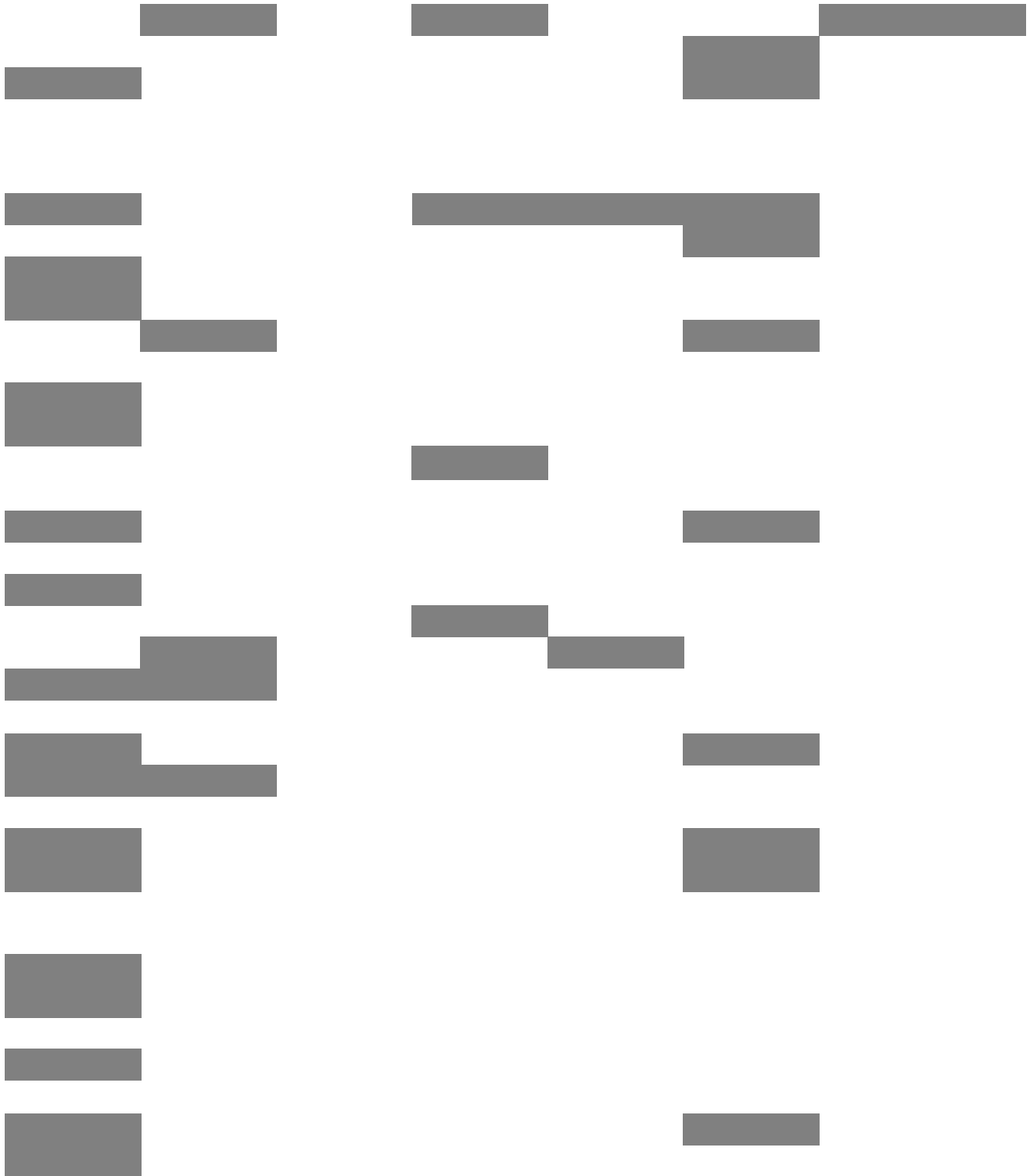
Farmer-own

Family-own

Family farm

Eco-friendly

Species-friendly



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Vegetarian/vegan Humane



