

THE POLITICAL ECONOMY OF RETAILING SUSTAINABLE FOOD:
GREEN CONSUMERISM AND SUSTAINABILITY

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Thesis Prepared for the Degree of
MASTER OF SCIENCE

UNIVERSITY OF NORTH TEXAS

December 2020

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Toofan, Megan H. *The Political Economy of Retailing Sustainable Food: Green Consumerism and Sustainability*. Master of Science (Geography), December 2020, 112 pp., 2 tables, 7 figures, 1 appendix, references, 194 titles.

In recent decades, the global impacts of unsustainable consumption and production patterns have become a leading topic of sustainability, and more recently, climate action discourse. At the policy level, green consumerism – an element of green capitalism – has been positioned as the pathway to more sustainable consumption and production (SCP) practices. Within this model, eco-labeling schemes are used to communicate various sustainability attributes, or conditions of production, to the consumer. This study set out to investigate whether SCP is achievable through green consumerism using a two-part case study that centers around the egg industry and specific hen welfare standards. The case study examines the effectiveness of egg eco-labeling schemes and related statements and images placed on egg packaging in informing consumers' purchasing decisions. It also examines the impacts of green consumerism on organic egg production in the presence of strong consumer demand for enhanced hen welfare standards. The results of the case study demonstrate that in the egg industry, green consumerism is not highly effective because consumers' purchasing decisions are often informed by vague and misleading information about conditions of production. Moreover, the presence of strong consumer demand has not resulted in enhanced hen welfare standards in organic production. In interpreting these findings through the lens of David Harvey's theory of the spatial fix, I argue that the true role of green consumerism is to facilitate a spatial fix to resolve the chronic crisis of overaccumulation in the conventional egg industry. Furthermore, that the limitations and contradictions within green consumerism (e.g. vague or insignificant eco-label claims) aid in removing the barrier of capital fixity so that the spatial fix can occur.

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ACKNOWLEDGEMENTS

I would like to extend my sincerest gratitude to my committee chair, Dr. Waquar Ahmed, and my committee members, Dr. Ipsita Chatterjee and Dr. Adam Dunstan, for their continued support and guidance, which helped make this research possible. I would also like to thank Vital Farms and Coyote Creek Farm for accommodating my request for an in-person farm visit, and for teaching me about their pasture-raised production systems. I would like to extend a special thanks to my mentors, Dr. Todd Spinks and Robert ter Kuile, who have been instrumental in helping me discover my calling. And lastly, I am deeply grateful to my family and friends who have supported me throughout this journey. Special thanks to my sister, Sara McDonald, and to Steven Svoboda for their endless encouragement and unwavering support throughout this process.

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CHAPTER 1

SUSTAINABLE CONSUMPTION AND PRODUCTION, GREEN CAPITALISM, AND GREEN CONSUMERISM

1.1 Introduction

Consumer perceptions play a crucial role in the consumption choices that individuals make. Consumption also has deeper socio-cultural meaning to consumers – from signifying social status to playing a part in identity-creation. A great deal of creativity and financial resources go into the advertising and marketing of products to convey a specific message to consumers, and to speak to the underlying motives of consumption. This includes the desire to consume sustainably, ethically – what is oftentimes described using the umbrella term ‘green’ – and which is a key motivator of the ‘green’. A key avenue of communication with the green consumer is through product labeling and additional statements and images placed on product packaging, which serve to communicate information about the product’s attributes, frame consumers’ perceptions, and impact their purchasing decisions.

The purpose of this study is to consider whether contemporary green consumerism is the pathway to sustainable consumption and production. Key concepts discussed in this study include green consumerism, green capitalism, and the implications of consumers’ perceptions to their consumption practices. The central research questions are:

1. In what ways are consumer perceptions and in turn consumption practices shaped by eco-labeling schemes? What are the implications to sustainable consumption and production (SCP)?
2. What does a closer look at political-economic barriers to contemporary green consumerism reveal about this model?

To address these questions, I first examine the value of eco-labeling schemes as an instrument of green consumerism (chapter 2) using a case study of a select group of eco-labels

found on non-conventional shell eggs. These eco-labels pertain to hen welfare standards, which is a growing area of sustainability or green consumption within the agrifood industry. Following this (chapter 3) is a deeper discussion of one specific eco-labeling scheme, the USDA certified organic label, and an account of the ways in which green consumerism has failed to come to fruition in the organic egg industry. I examine these setbacks through the lens of David Harvey's theory of the spatial fix to propose an alternate purpose for green markets that does not involve a shift towards more sustainable production processes even when consumer demand is present.

1.2 The Environmental Movement, Sustainable Development, and Sustainable Consumption and Production

The beginning of the environmental movement in the United States is most commonly associated with Rachel Carson's *Silent Spring* (1962) and Ralph Nader's *Unsafe at Any Speed* (1965). These publications made the American public aware of common yet hazardous industry practices taking place on a daily basis, placing society at increased risk. The 1960s through the 1990s were also marked by a series of publicized, environmental crises. Namely, the Santa Barbara oil spill (1969); the Cuyahogo River fire (1969); the first oil crisis (1973); the Three Mile Island nuclear accident (1979); the second oil crisis (1979); the Love Canal tragedy (1979); the Bhopal gas tragedy in India (1984); the Yellowstone fires (1988); the Exxon-Valdez oil spill (1989); and Hurricane Hugo (1989). To the public, these crises further validated the concerns expressed by both Carson and Nader about the large-scale environmental impacts of day-to-day human activity and industry processes. This resulted in a surge in environmental consciousness on the part of consumers (Alves & Edwards, 2008). Awareness of the harmful effects of consumer goods – for example, products made using ozone-depleting chemicals – moved to the forefront of public concern, causing many to predict that the 1990s would be the “environmental decade” (Fisher, 1990; Goss, 1990; and Hayes, 1990 in Kangun et al., 1991). These pro-environment consumption

practices have evolved into what we know today as green consumerism. A key difference however, is that the ‘green consumerism’ that emerged out of the 1960’s and 1970’s was supported by a prevalence in “zero growth” thinking and an awareness that shifts in consumption and production practices will require radical changes to political, economic, and cultural structures (Scales, 2016).

Policy discussions stressing the necessity for sustainable development also marked the late 1980s and early 1990s, beginning with the publication of the Brundtland Report in 1987 by the World Commission on Environment and Development (WCED). The report defined sustainable development as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). Since the publishing of the Brundtland Report, international institutions like the Organization for Economic Cooperation and Development (OECD), the United Nations Commission on Sustainable Development (UNCSD), and the United Nations Environment Program (UNEP) have continued to make great efforts to link environmental and social decline to both consumption practices and production processes (Cohen, 2005). At the 1992 United Nations Earth Summit in Rio, governments formally recognized unsustainable patterns of consumption and production as the major cause of environmental and social degradation across the globe (“Agenda 21”, 1992). In 1994, sustainable consumption and production (SCP) was defined by the Oslo Symposium as:

The use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of further generations. (“Sustainable Consumption and Production”, n.d.)

Nearly a decade later, SCP was recognized at the 2002 World Summit on Sustainable Development (WSSD) as one of the “essential requirements” for achieving sustainable development goals (“Sustainable Consumption and Production”, n.d.). SCP is also highlighted in

the 2030 Agenda for Sustainable Development adopted in 2015, calling on countries – particularly the developed ones – to “commit to making fundamental changes in the way that our societies produce and consume goods and services” (“Sustainable Consumption and Production”, n.d.).

In recent years, the United Nations has expanded on the definition of sustainable development, often referred to simply as ‘sustainability’, stating that it should “harmonize three core elements: economic growth, social inclusion and environmental protection” (“Sustainable Consumption and Production”, n.d.) Variations in the notion of three balanced elements of sustainability have emerged across different industrial sectors, including the “triple bottom line” and the people, planet, and profit pillars (Kuhlman & Farrington, 2010; Pope et al., 2004; Gibson, 2001 cited in Pope et al., 2004; Yanarella et al., 2009). Increasingly, sustainability mission statements and annual corporate social responsibility (CSR) reports have been utilized by different organizations to manage, measure, and transparently communicate their “responsibilities for social well-being, environmental stewardship, and economic prosperity over the long term” (“What is Sustainable Production?”, 2017).

Despite this progress, consumption levels in developed countries have continued to rise, further collapsing social and environmental conditions. Moreover, SCP is either largely hung up in the theoretical realm or is executed within the limits of capitalism, such as the narrow focus on green consumption or initiatives like recycling (Mont & Dalhammar, 2005). At various scales, particularly at the policy level, green consumerism is positioned as *the* avenue for realizing SCP patterns and in turn, achieving sustainability goals. The reality is that contemporary green consumerism is at best “the practical, early baby step” to practicing sustainable consumption (Akenji, 2014, p. 15; Hobson, 2006 cited in Akenji, 2014), and is at worst an “illusion of progress” that protects economic vitality by continuing similar patterns of consumption and production

(Akenji, 2014, p. 13).

1.3 The Debut of Green Capitalism

The emergence of sustainable development in the 1980's marked a critical time for capitalism, with the debut of what is often referred to as green capitalism (Barron, 2005; "Corporate Watch", 2016; Magdoff & Foster, 2011; Budinsky & Bryant, 2013; Kenis & Lievens, 2016). Core concepts underpinning green capitalism can be traced as far back as the development of scientific forest conservation and efforts to use forest resources more efficiently (Scales, 2016; Demeritt, 2011). However, it was not until the 1992 United Nations Earth Summit in Rio when green capitalism was brought fully into the mainstream and presented as a solution to the unsustainability of contemporary consumption and production practices (Scales, 2016; "Corporate Watch", 2016).

Green capitalism is positioned as an improved version of capitalism, addressing key issues within the original system that have led to social and environmental degradation. A key improvement touted by green capitalism is the economic valuation and marketization of nature. At the heart of green capitalism is the recognition that capital can be extracted from nature, and that value can be derived from the ecosystem services nature provides. Properly valuing and commodifying nature, and bringing it into the market economy enables the 'invisible hand' of the market to reduce environmental exploitation and promote the sustainable use of resources through the same self-regulating mechanisms that balance supply and demand (Scales, 2016; "Corporate Watch", 2016). Furthermore, green capitalism recognizes that the price of goods and services in the marketplace have historically failed to reflect the environmental and social impacts associated with production (e.g. pollution). The system addresses such 'negative externalities' by seeking ways to internalize environmental costs (e.g. by imposing a tax on pollution-generating activities),

which in turn incentivizes industries to shift towards greener methods of production in order to reduce overhead costs and remain competitive (Scales, 2016; also see carbon sequestration programs in Smith, 2007).

Since the 1992 summit, the belief that deep-seated flaws inherent within capitalism can be over-written with an updated, green version of capitalism has permeated economic, political, and cultural echelons. Paradoxically, the system meant to help resolve the global issue of unsustainable patterns of consumption and production does not necessitate a decrease in these levels, which is vital to lessening resource-strain and waste generation resulting from elevated levels of consumption and production. Furthermore, rather than directly legislating green production standards, green capitalism relies on market mechanisms and the purchasing power of the consumer “to deliver more sustainable patterns of resource use” (Scales, 2016, p. 5). Upon closer examination, it becomes evident that the principles of green capitalism are not exceedingly different from those of capitalism, and both contrast starkly with the ideals of SCP and sustainable development. Intrinsic to capitalism is the “competitive amassing of profits for new capital formation” in order to ensure what is considered a healthy, yet increasingly unsustainable, 3% growth in gross domestic product – a measure of the goods and services produced each year (Magdoff & Foster, 2011, p. 42; Harvey, 2010). The notion of *reduced* consumption is as absent in the narrative of green capitalism as it is in capitalism. Subsequently, continued consumption, which drives production and in turn, drives economic growth remains the dominant paradigm under green capitalism (Akenji, 2014, Jackson, 2009 cited in Akenji, 2014). The desideratum for continued economic growth is embodied in green consumerism, a component of green capitalism discussed in the next section. Green consumerism implies to consumers that their environmentalist identities can be fulfilled chiefly through more deliberate product choices (Budinsky & Bryant,

2013). This is a severe over-simplification of the comprehensive scope of SCP. Thus, green capitalism applies the same capitalist principals which lead to environmental crises (e.g. continued economic growth) to the natural world, in order to solve those crises (“Corporate Watch”, 2016, p. 7). This idea is explored in more detail in chapter 3, where I argue that the organic egg industry has served as a ‘spatial fix’ for a crisis within capitalism (Harvey, 2001b). By appearing to soften and cast in a green glow the exploitative nature of capitalism, green capitalism functions as a new frontier for capitalist activity and crisis resolution, one which “radically intensifies and deepens the penetration of nature by capital” (Smith, 2007, p. 17).

1.4 Green Consumerism and the Road to SCP

A key factor of green capitalism and one which is promoted as the pathway to sustainable consumption and production (SCP) is a concept known as green consumerism. Peattie (1992) defines green consumerism as “the purchasing and non-purchasing decisions made by consumers, based at least partly on environmental or social criteria” (quoted in Muldoon, 2006, p. 26). Within the agrifood industry, SCP has traditionally focused on issues such as worker health and safety, proper manure management, responsible resource utilization, support for small family farms, and food security (Xin et al., 2011; Mench et al., 2011; “Climate Change and Health”, 2018; see Reisch et al., 2013 for an overview of contemporary sustainable food consumption issues and policies). This study centers around a different topic of concern which has more recently made its ways into SCP discussions: the welfare of animals raised for food. As Buller et al. (2018) indicate, “locating animal welfare within the classic domains of sustainability, namely ‘society’, ‘economics’, and ‘environment’, has always been both complex and problematic” (p. 81). This changed in 2016, when in a pivotal moment for farm animals and animal welfare advocates, the United Nations Committee on World Food Security adopted new policy measures concerning animal welfare in

food production. For the first time, animal welfare was formally identified as an important aspect of the sustainable development agenda (Buller et al., 2018).

In line with the evolving scope of sustainability, consumer concern for ethical production standards, such as animal welfare, when evaluating product choices has increased. Eco-labels placed on product packaging are used to communicate the sustainability attributes of products to consumers. Eco-labeling schemes work “on the assumption that consumers can be provided with information about the conditions of production through the use of labels,” enabling them to make more sustainable choices. In turn, producers are expected to “react to changing demands in the marketplace” and modify their production processes (Scales, 2016, p. 5). This points to the central notion of green consumerism: that continual production of a product will only take place if demand, and in turn a market for that product exists. As consumers wield their purchasing power and increase the demand for more sustainable products, the market for such products increases. This in turn leads to the decreased production of conventional versions of those products, resulting in more sustainable consumption and production painstakingly triggered by consumer demand and their purchasing decisions (Scales, 2016).

The merits of green consumerism as a potential pathway to SCP are highly debated. It is important to note that the major fault line separating the critics from the proponents ties back to the system of capitalism and green capitalism, and the manner in which green consumerism manifests in this context. Some proponents believe that consumer demand and the shifting availability of resources will eventually lead to more efficient production processes (e.g. closed-loop manufacturing) (Lovins et al., 1999; Cox, 2004 cited in Muldoon, 2006). For others, consumption provides a space for consumer activism. Rifkin (1990) proposes an extension of the concept of participatory democracy to consumption in order to “assure our responsibilities as

active participants in the decisions that affect the future course of our society, civilization, and ultimately, the planet” (quoted in Muldoon, 2006, p. xv). According to Elkington et al. (1990), consumption grants individuals a resounding voice in the marketplace:

The marketplace is not a democracy; you don’t need majority opinion to make change. Indeed, it takes only a fairly small portion of shoppers – as few as one person in ten – changing buying habits for companies to stand up and take notice. (quoted in Muldoon, 2006, pp. 9-10)

Others emphasize the impacts of consumers’ purchasing decisions or lack thereof. Gale (2002) states that “cautious consumers can affect dramatic change through their purchasing power” (quoted in Muldoon, 2006, p. 299), while Brecher et al. (2000) assert that consumers can affect change by utilizing “the power that lies hidden in the withdrawal of consent” (quoted in Muldoon, 2006, p. 31).

Critics of green consumerism however, are less inclined to view consumer purchasing decisions as the catalyst for change. For many, this narrow focus on green consumerism “masks larger structures that continue to ensure that wealthy corporations routinely benefit from pollution and the mass extraction of resources” (Muldoon, 2006, p. 30). Maniates (2009) describes the single-minded emphasis on green consumption as “obsessing over the cobblestones of but one path,” rather than recognizing that an amalgamation of a variety of paths and deeper changes is necessary (p. 379). Furthermore, Maniates (2009) objects to proponents’ views of green consumerism as a site for consumer activism:

This collective obsessing over an array of ‘green consumption’ choices and opportunities to recycle is noisy and vigorous, and thus comes to resemble the foundations of meaningful social action. But it is not, not in any real and lasting way that might alter institutional arrangements and make possible radically new ways of living that seem required. (p. 379)

A common objection with green consumerism is that consumers – and not producers, manufacturers, and corporations – are more often burdened with the responsibility of course-

correcting society to a more sustainable trajectory by choosing the ‘right’ products. Gale (2002) and Hyde (2005) contend that true change will require the implementation and enforcement of environmental laws and penalties (cited in Muldoon, 2006). And still others believe that green consumption is of no consequence because a complete overhaul of the foundational system – capitalism and now green capitalism – is essential for lasting change (Maniates, 2009; Princen et al., 2002 cited in Muldoon, 2006).

As I discuss in more detail in chapter 2, the use of eco-labeling schemes as the key avenue of communication with consumers is a deeply problematic aspect of green consumerism, and one which more often than not hinders consumers’ ability to choose the most sustainable options amongst like products. One reason is that the amplification of green consumerism as the pathway to SCP has been accompanied by a proliferation of eco-labeling schemes across industry sectors. This has led to an overabundance of questionable information provided to consumers, as many eco-labeling schemes do not accurately inform consumers about the production processes they represent. Furthermore, many product packages contain eco-labels accompanied by additional statements and images which shape consumers’ perceptions of the product, influencing their purchasing decisions and in turn the effectiveness of green consumerism.

1.5 Consumer Perceptions and Green Consumerism

As discussed in previous sections, consumption plays a critical role in both capitalism and green capitalism, and is preserved in the model of contemporary green consumerism. The role of consumption has been studied across a variety of disciplines, with the unanimous viewpoint that consumption is a complex and dynamic social phenomenon, motivated by a variety of needs which include utilitarian, hedonistic, and social needs (see Jackson, 2005 for an overview of consumption across disciplines; Ackerman, 1997; Sassatelli, 2007; Sanne, 2002). Consumption also provides a

site for consumers to construct and proclaim their identities (Jackson, 2005). Similarly, sustainable consumption is a way for consumers to frame and express their various identities and principles as sustainable consumers, ecological citizens, or activist consumers (Allen & Kovach, 2000; Johnston & Szabo, 2011; Seyfang, 2006). As Carr et al. (2012) elaborate, “the politicization of everyday purchasing decisions may be viewed as an illustration of identity construction being realized through the integration of consumer desire and civic responsibility” (p. 224). This notion however, is problematic within green consumerism, which conveys to individuals that the scale of change that would typically require collective action as citizens is achievable through their role and activities as consumers, limiting their voices and votes to their purchasing decisions and the dollars to their name.

The socio-cultural significance of consumption demonstrates the vital role of information-sharing tools, like eco-labeling schemes, in shaping consumers’ perceptions of a given product, influencing the meaning behind the act of consuming that product, and aiding in the process of identity formation and/or fulfillment. Consumers’ perceptions are a key component of this process, by framing the meanings necessary to motivate consumption. Various studies describe perception as the collection of information regarding an individual’s surroundings using the five senses (Stanton et al., 1994; Troy & Kerry, 2010; Walters & Bergill, 1989; van der Walt, 1991). Perception also involves the manner in which individuals process and assign meaning to the information that is collected from their environment. More specifically, perception is “seeing or hearing [information] in terms of a person’s frame of reference” (van der Walt, 1991, pp. 295-296). A number of studies examine the impacts of positive and negative perceptions on consumer decision making in the organic food industry, demonstrating the significant role of consumers’ perceptions in furthering green consumerism. Many consumers of organic food believe organic is

superior in taste and quality, is more environmentally- and animal-welfare-friendly, and that buying organic helps support local farms and businesses (Schifferstein & Ophuis, 1998; Hartman, 2002; Govindasamy & Italia, 1999; Dettmann & Dimitri, 2009; Grankvist & Biel, 2001; Magnusson et al., 2001; Magnusson et al., 2003; “The Walnut Acres Survey”, 2002 cited in Dimitri & Greene, 2000; Makatouni, 2002; Harper & Makatouni, 2002; O’Donovan & McCarthy, 2002; for more examples see Hughner et al., 2007). Alternately, a common negative perception – and barrier to consumption – is the higher price point of organic food (Barry, 2002; Raab & Grove, 2005; “The Walnut Acres Survey”, 2002 cited in Dimitri & Greene, 2000). Furthermore, in a survey conducted by the Hartman Group, consumers negatively associated organic with the following words: “trendy,” “inconsistent,” “spoils easily,” and “wilted” (Barry, 2002). In a study on organic produce, Zanolli & Naspetti (2002) found that consumers’ perceptions of organic produce as less aesthetically pleasing and uniform in shape and size when compared to conventional produce impacted their purchasing decisions. Interestingly, companies like Imperfect Foods and FarmBox Delivery, who are working to eliminate food waste, have found a loyal following in consumers who perceive ‘imperfect’ produce as perfectly acceptable. In looking at green consumption as a whole, Troy & Kerry (2010) found that consumers are less likely to follow through and purchase a product if they do not perceive it to be better (for the environment, society, animal welfare) than conventional products. In other words, for green consumerism to function, eco-labeling schemes must succeed at clearly distinguishing sustainably produced products from conventional versions. Additionally, eco-labels and other components of product packaging and marketing must validate currently held perceptions of a particular production system, or help shape consumers’ views of the product as more sustainably produced.

1.6 Thesis Design, Database, and Methodology

The overarching purpose of this research is to critically examine the assertion that sustainable consumption and production (SCP) is achievable through green consumerism. The concepts and ideas introduced in this chapter serve as the backdrop for the analyses and discussions that follow in chapters 2 and 3 (with concluding thoughts summarized in chapter 4). These subsequent chapters are organized so that each encompasses one part of the overall case study, which explores the effectiveness and limitations of green consumerism. In chapter 2, the case study centers around a select group of eco-labeling schemes found on shell eggs, and examines the integrity of information provided to consumers. The primary data for this chapter includes consumer survey responses collected using an online survey platform, and photographs of egg carton packaging for the various brands of eggs reported in the survey. This data was analyzed using content analysis in order to identify the key themes discussed in the chapter. The findings in this chapter reveal that consumers' perceptions and in effect their purchasing decisions are often based on misinformation communicated via eco-labeling schemes and related images and statements found on egg packaging. This significantly weakens the claim that green consumerism will lead to SCP when eco-labeling schemes fail to demystify conditions of production and truthfully inform consumers' purchasing decisions.

Chapter 3 provides an in-depth look at the USDA Certified Organic label and the course of hen welfare standards in the organic egg industry. The organic program has historically been looked to as the gold standard in agrifood production, and consumer support and demand for the animal welfare standards believed to be embodied by organic have continued to grow. Thus, the organic label was selected for this part of the case study to investigate the impacts of green consumerism in the industry once consumers have 'cast their vote' in favor of the organic

production system. The primary data for this chapter was collected from online articles and government reports to create a timeline of the progression of hen welfare standards in organic egg production. As exemplified in the case study, green consumerism fails to impact changes to production processes in response to the preferences indicated by consumers' purchasing decisions. Rather, in this scenario, organic hen welfare standards have been downgraded so as to ease the entry of conventional egg producers into organic production.

This study concludes that the limitations and contradictions revealed within green consumerism invalidate its purported role as *the* solution to global unsustainable consumption and production patterns. Drawing from David Harvey's theory of the spatial fix, I contend that green consumerism creates spaces characterized by a multiplicity of eco-labeling schemes, misinformation, and consumer confusion to provide a spatial fix for the crisis of overaccumulation within conventional markets. In doing so, conventional producers avoid the need to truly 'level up' and enhance their production standards before accessing the consumer base in the 'green' markets constructed through green consumerism.

CHAPTER 2

CASE STUDY PART I: ECO-LABELING NON-CONVENTIONAL SHELL EGGS

2.1 Introduction

Since the environmental and green consumerism movements of the 1960's through 1990's, consumers have grown increasingly more concerned about the larger implications of their consumption choices. Sustainable consumption and production (SCP) has also become a leading topic of sustainability and climate action discourse. One facet of SCP gradually making an appearance in global and local discussions, and which has moved to the forefront of consumer consciousness, is the issue of farm animal welfare in food production. An uptick in media attention and undercover investigations by animal welfare organizations exposing inhumane practices in the industry, declarations by super market and restaurant chains to address farm animal welfare concerns in their supply chains, and the passing of a number of farm animal protection laws have propelled this topic into the mainstream (“State Farm Animal Protection Laws”, 2010; Worland, 2015; Pacelle, 2016; Gubbins, 2018; Ettinger, 2018). Likewise, advancements in technology which place information and information-sharing platforms at the fingertips of consumers has also aided in exposing and raising awareness about conditions and commonplace practices in industrial farming.

As expected in a capitalist food system, the opportunity to capitalize on the growing demand for animal-welfare-friendly food products has not been squandered, and premium-priced ‘green’ food products have proliferated the market. This over-abundance of eco-labeling schemes is especially evident in the shell egg industry, where growing concern for hen welfare has resulted in a product with one of the highest numbers of eco-labels in a single food category (Graham, 2010). Thus, the egg was selected as the subject of the case study for this research. The goal of

this chapter is to explore the transparency and integrity of information provided to consumers via eco-labeling schemes and additional information and images placed on egg packaging in order to determine the effectiveness of green consumerism. I also examine consumer responses to an online survey to further understand how consumers' purchasing decisions are informed – or misinformed – by the information available to them. Through my findings, I reveal that consumers' perceptions of non-conventional eggs are shaped by information that is oftentimes vague and misleading, and which does not paint an entirely accurate view of the production system. I also contend that this misperception and the confusion surrounding a number of eco-labeling schemes contradicts a key claim of the green consumerism model – that eco-labels provide consumers with the necessary information to make informed purchasing decisions, which ultimately leads to meaningful changes in production processes. This chapter is the first of a two-part case study that together, expose key limitations and contradictions within contemporary green consumerism.

2.2 The Case for Eggs

Shell eggs are a highly consumed food product. In the United States alone, the average person consumes approximately 289 eggs per year (Shahbandeh, 2020). This number is expected to continue rising, with the USDA projecting production numbers around 9.2 million dozen in 2019 (“World Agricultural Supply and Demand Estimates”, 2019). Approximately 94% of eggs produced in the United States come from hens raised in caged housing systems. These hens are confined to small battery cages and are typically provided less space than an 8.5 by 11-inch sheet of paper (“Cage Free”, 2019). They can stand upright but cannot turn around, move about, or stretch their wings. Furthermore, they never experience sunshine on their feathers, breathe in fresh air, nor do they have the opportunity to engage in natural behaviors like dust bathing or foraging for bugs and grasses.

While non-conventional production systems do offer a number of improvements to hen welfare standards, many of the options marketed to consumers (and perceived by consumers) as more humane still have objectionable practices in place. Examples include the killing of male chicks upon hatching – by placing them directly into a grinder, beak trimming – often without anesthetics to manage the pain, daily exposure to dangerous ammonia levels, and the slaughter of hens once egg production slows – typically around two years of age (Lewis, 2017). As I will discuss throughout this chapter, standards pertinent to this research (amount of space and quality of space) are also only marginally improved in some production systems, or the realities do not necessarily align with how they are portrayed to consumers. For example, contrary to what consumers may believe about organic livestock farming, many organic farmers raise laying hens in industrial-scale henhouses which offer “only tiny enclosed porches as ‘outdoor access’ – or no outside access whatsoever” (“The Cornucopia Institute” cited in Lewis, 2017, p. 9). In cage-free systems, hens have been ‘freed’ from a life of battery-cage-confinement and relegated to a larger cage in the form of a henhouse, with standards that may otherwise resemble conventional production systems. Although these hens are technically free to move about, “they are often still packed so tightly that they engage in cannibalism and feather-plucking from stress and will never step foot outside” (Lewis, 2017, p. 11).

As this overview demonstrates, there is a critical nexus between rising production demand, inhumane production conditions, growing consumer consciousness, and the need for concerned consumers to be able to identify true conditions of production in order to make informed purchasing decisions. This case study focuses on a specific group of eco-labels which represent the amount and quality of space provided to egg-laying hens – one aspect of hen welfare. An online survey was conducted to gauge consumer perceptions of the eco-labels in order to better

understand if consumers' understanding align with the realities of that production system. The results of the survey are discussed in section 6 of this chapter. Content analysis of the packaging for several egg brands was also conducted in order to understand how images and key statements are used to market a certain idea to the consumer. Furthermore, how these images and statements impact consumers' overall perceptions of the production system associated with the eco-label.

2.3 Overview of Eco-Labels

The advent of green consumerism was accompanied by the need for manufacturers, producers, and businesses to communicate to consumers the environmental, social, and ethical attributes of their products and services. Enter the eco-label, described as a “holistic judgement of a product’s relative environmental qualities compared to other functionally and competitively equivalent products” (Salzman, 1994 quoted in Piotrowski & Kratz, 2005, p. 430; Czarnezki et al., 2014); and as a “trustworthy symbol that manufacturers can put on things they sell to demonstrate that they are *genuinely* better for the environment than comparable products” (Woodford, 2020). While many definitions emphasize the environmental (or ‘eco’-logical) application, today’s eco-labeling landscape more closely resembles the various pillars or spheres of sustainability to include social (e.g. fair trade) and ethical (e.g. animal welfare) qualities (see Ecolabel Index for a complete list of all Eco-labels). Today, an eco-label placed on a product demonstrates to consumers that the product “was produced under a set of standards that address environmental issues, animal welfare and/or social justice concerns” (“Ecolabel Programs”, n.d.), with the ultimate goal of solving the “adverse selection problem” by providing consumers with information to assist them in making “the right choice in the market” (Youssef & Abderrazak, 2009, p. 3).

Since the introduction of the first eco-label, Blue Angel in Germany in 1978, a plethora of eco-labeling schemes have saturated the market. Today’s consumer encounters more than 460

different eco-labels across 25 industry sectors (Atkinson, 2014; Ecolabel Index, 2020). There are three main categories of eco-labels: first-party, third-party, and government-regulated labels. First-party labels are self-declared claims, or credence claims, that are not backed by an independent verification process (e.g. ‘cage-free’, ‘free-range’, and ‘pasture-raised’). Third-party labels are confirmed through an independent verification process which typically includes initial steps for a producer or manufacturer to become certified, and annual audits (e.g. Certified Humane). Government-regulated labels are regulated by the federal government and verified by a certifying agent (e.g. USDA certified organic). These labels also typically include an initial certification process and annual audits.

2.4 Eco-Labels and the Agrifood Industry

The agrifood industry encompasses one of the largest eco-label sectors, with 60 different labeling schemes related to food production (Ecolabel Index, 2020; Vermeer et al., 2010 cited in Czarnezki et al., 2014). This is in great part due to a rise in consumer awareness of the negative repercussions of irresponsible industry practices and a growing demand for change (Vermeer et al., 2010). The objective of an eco-labeling scheme is to “increase transparency along the food chain and inform the consumer in a way that can promote sustainable consumption” (Grunert et al., 2014, p.177). The truthfulness of these labels is vital because “short of visiting the farm or factory, the products label is where [consumers] can find information about whether [they] are supporting a sustainable food system” (“Food Labels”, 2020).

Eco-labeling schemes in this sector have expanded their scope from a primarily health and nutrition focus to include environmental, ethical, and other social concerns related to the production, packaging, and transportation of animal food products (Vermeer et al., 2010). Issues include soil and water conservation, deforestation, synthetic pesticide and fertilizer use, pest

management, hormone and antibiotic use, worker health and safety, fair labor, and animal welfare (Vermeer et al., 2010). While a holistic approach to these issues and many others is vital to achieving true sustainability within the industry, the particular set of food eco-labels discussed in this study can be categorized as animal welfare labels.

2.5 Eco-Labels and Animal Welfare

Approximately half of the eco-labels found on food products address animal welfare attributes (“A Consumer’s Guide to Food Labels”, 2020). The World Organization for Animal Health (OIE) defines animal welfare as “the physical and mental state of an animal in relation to the conditions in which it lives and dies” (“What is Animal Welfare?”, 2020). According to the American Veterinary Medical Association (AVMA), upholding the welfare of an animal means providing for the animals physical and mental needs. These needs include health, comfort, nourishment, safety, an ability to express natural behaviors, and protection from the suffering of pain, fear, and distress (“Animal Welfare”, 2020). Furthermore, “ensuring animal welfare is a human responsibility that includes consideration for all aspects of animal well-being” (“Animal Welfare”, 2020).

A number of studies support the notion that the welfare of animals raised for food is important to consumers (“Consumer Reports Survey”, 2017, see “Consumer Perceptions of Farm Animal Welfare”, n.d., for a summary of additional surveys). A survey conducted in 1999 by the Animal Industry Foundation revealed that 44% of consumers would pay 5% more for humanely raised animal products (Meier, 2010). A more recent survey by Public Opinion Strategies (2007) found that 58% of consumers would pay 10% more for meat, poultry, eggs, and dairy products sourced from humanely raised animals (“FAQs”, n.d.). Moreover, agricultural economists at Oklahoma State University (OSU) reported that nearly half of their survey respondents believed

that companies should be required by the government to indicate the level of animal care on the labels of their products (Norwood & Lusk, 2011).

2.6 Animal Welfare Eco-Labels and Shell Eggs

This ever-growing support for improved animal welfare standards also applies to the egg industry and the conditions under which egg-laying hens are raised. In the previously mentioned survey conducted by Oklahoma State University, 69% of respondents who expressed concerns about hen welfare indicated that egg production systems that fail to enhance welfare standards for the hens should be prohibited (Norwood & Lusk, 2011). In 2000, Zogby International conducted a survey of American adults and found that 86.2% opposed the conventional egg industry practice of raising hens in overcrowded cages (Meier, 2010). 80.7% of respondents indicated their willingness to pay a premium for eggs sourced from humanely raised hens, 54% stated that they would be willing to spend 5 to 10% more for these eggs, and an additional 10% were inclined to pay up to 20% more for eggs from production systems with enhanced welfare standards (Meier, 2010).

In a 2008 national survey conducted by professors at Kansas State University (KSU) and Michigan State University (MSU), 62% of respondents indicated that they would support mandatory labeling of eggs that come from conventional caged production systems (Tonsor & Wolf, 2011, p. 3). Based on responses, the professors at KSU and MSU estimated that consumers would be willing to pay a 20% premium on eggs if mandatory labeling was put in place (Tonsor & Wolf, 2011, p. 3). This would ensure a reduction in consumer confusion at the point of purchase due to misleading imagery and phrases used on egg cartons (e.g. “humanely raised”, “natural”, “farm fresh”) which deceive consumers into thinking they are purchasing something other than conventional caged eggs. Other studies suggest a consumer willingness to pay up to 60% more for

eggs in exchange for guaranteed welfare attributes (Meier, 2010).

According to the AVMA, to ensure the welfare of egg-laying hens, they must be provided with feed, water, light, air quality, space and sanitation. In addition to these basic needs, the hens should also be protected from disease, injury, and predation, and have the ability to express important natural behaviors, such as nesting, perching, dustbathing, scratching, and foraging (“Literature Review”, 2012). How these needs are valued and provided for varies between conventional and non-conventional production systems, as well as amongst the various eco-labeling schemes, making the availability of truthful and transparent information on egg cartons essential to consumer decision-making. In a petition to the Food Safety and Inspection Service (FSIS) agency advocating for full disclosure of production methods on the front panel of egg cartons, Executive Director of Compassion Over Killing, Erica Meier, made the following statement:

Given the fact that the public is both unfamiliar with egg production methods and considers them important enough to their purchasing decisions that they will pay more for eggs with perceived higher welfare standards, clear and truthful labeling regulations are needed to protect this market from exploitation. (2010, p. 4)

While the petition and the arguments therein promote the labeling of egg cartons to indicate caged production methods, it nonetheless speaks to the importance of truthful, verified, and government-regulated labeling across all egg production types. It is clear from the aforementioned studies that consumer disapproval of lower hen welfare standards, particularly the use of caged confinement and minimal space allowances, in the production of eggs is becoming more prevalent as the realities of conventional industry practices are demystified. It is reasonable to conclude then that consumers who are aware of these conditions are less likely to purchase eggs produced in a caged system and are more likely to support alternate options. Consumers have the right and should be able to assume that information provided on egg cartons is truthful and meaningful, and is intended

to assist them in distinguishing between, amongst other things, various *production systems*. Regrettably, what the consumer is actually faced with is a myriad of eco-labels claiming to represent different methods of egg production, when in reality many embody the same or very similar industry practices that consumers are attempting to move away from.

A related challenge that consumers face is the array of eco-labels that one egg carton may contain. For example, an egg carton may state that the eggs are pasture-raised, organic, and certified humane, all of which address various welfare attributes. Additionally, individual eco-labels may also address one or a small cluster of related welfare concerns. A label claim like ‘cage-free’ informs the consumer that the hens are not raised in cages. It may also address whether or not enrichments are provided to the hens in order to allow them to express some of their natural behaviors. Other label claims like ‘natural’ may conjure up in the minds of consumers images of hens raised in a manner that is *natural* to them (i.e. outside of cages, foraging on pasture, etc.). However, the suggestive phrasing and the imagery they are oftentimes accompanied by are simply that – words and pictures – as this label is meaningless in terms of animal welfare and egg production processes as a whole (Kelto, 2014). Other eco-labels, such as the Certified Humane label, address multiple attributes pertaining to the welfare of the hens at various ages and stages within the production cycle, taking a more holistic approach to animal welfare standards. Examples include beak trimming/tipping, transport, medical and injury-related care, ammonia levels, feed, enrichments and quality of environment, space allowances, amount of light and intensity of light, and even recommendations and/or requirements pertaining to hatcheries and processing facilities.

An additional challenge that arises from this is that ill-conceived confidence due to the presence of an eco-label exists even though in some cases the welfare standards under which eco-labeled eggs are produced are not so different from conventional practices. One example is the

standard for acceptable levels of ammonia in hen houses. Ammonia is a colorless gas with a powerful and pungent odor that results from the buildup of waste. Humans can detect the smell of ammonia at concentrations of 5 ppm (parts per million) and greater. The industry norm is to prohibit ammonia concentrations greater than 25 ppm; however, concentrations as low as 20 ppm have been shown to have negative health effects on poultry (“Management of Ammonia Levels”, 2020) The Certified Humane label recommends ammonia levels of less than 10 ppm, but requires that they not exceed 25 ppm. Exclusions to this requirement are given during brief periods of severe weather that may affect ventilation in the barn. Similarly, the American Humane Certified label also recommends ammonia levels of less than 10 ppm, but allows concentrations up to 25 ppm (“Humane Farm Animal Care”, 2013). As this example shows, laying hens raised in non-conventional production systems may be exposed to ammonia levels that align with industry standards. This is one of many examples which demonstrate that the presence of an eco-label on an egg carton does not necessarily translate to enhanced hen welfare in all areas when compared to industry norms, as consumers would expect. Meaning that the consumer is further burdened with the task of comparing and contrasting various eco-labels against industry standards to ensure that their selection supports sustainable agrifood production processes.

While there are many, highly important welfare concerns that should be taken into account for laying hens in egg production, this study focuses on a specific set of welfare eco-labels which address space allowances for the hens, and as an extension, the quality of space provided (e.g. enriched environments, availability of grass in the outdoor area, etc.). These labels are: Cage-Free, Free-Range, Pasture-Raised, Certified Humane, American Humane Certified, and USDA Certified Organic (including Organic Cage-Free, Free-Range, and Pasture-Raised). Each will be discussed in more detail in the following sections.

2.6.1 Cage-Free, Free-Range, and Pasture-Raised Labels

When the term cage-free is displayed on an egg carton, it indicates to consumers that the supplying farm does not confine its hens to battery cages. Free-range and pasture-raised labels suggest to consumers that laying hens are not only raised outside of cages, but that they are also provided with continuous access to an outdoor range or pasture where they can roam and forage (“Cage Free”, 2019). The challenge however, is that standard definitions and requirements for the general use of these label claims have not been set and are not regulated by federal agencies traditionally responsible for food safety, quality, and various aspects of food labeling and packaging (e.g. the Food and Drug Administration (FDA) and Food Safety and Inspection Services (FSIS)). A number of third party certification programs have been developed to more clearly address various animal welfare concerns, including space allowances and quality of space for egg-laying hens. When accompanied by the following certification labels, the cage-free, free-range, and pasture-raised claims gain verifiable significance as it pertains to egg production systems: Certified Humane, and American Humane Certified. These additional eco-labels will be discussed in more detail in their corresponding sections.

When it comes to the labeling of food products in the United States, the FDA is responsible for ensuring that manufacturers, distributors, and purveyors properly label their food products and comply with labeling guidelines. While the FDA has strict rules in place for various label claims (e.g., nutrient content claims) and requires that all food labels are truthful and not misleading to consumers, the agency’s jurisdiction does not include claims pertaining to the production systems of eggs (“Guidance for Industry”, 2013). For example, egg producers are presently not allowed to use the term “healthy” on their egg cartons because based on the FDA’s current definition of this term, eggs are not deemed healthy (Canal, 2018; Laflamme, 2018). On the other hand, egg

producers can sell their eggs under label claims such as cage-free, free-range, and pasture-raised, which may or may not be a truthful representation of their production system, and these claims continue to remain undefined, unregulated, and unverified by the FDA.

There are a few exceptions to the government's indifference in this area: when egg cartons contain the USDA Grademark and/or the USDA certified organic seals. Egg cartons containing a USDA Grademark seal AA or A have undergone a voluntary grading and certification process offered by the USDA's Agricultural Marketing Service (AMS). Grading describes the marketability of eggs based on a number of characteristics which signify their overall quality ("Questions and Answers", 2015). As part of this process, additional claims such as cage-free and free-range (pasture-raised is not a term recognized by the USDA for laying hens) that accompany the USDA Grademark seal are also verified through bi-annual on-site visits. Currently, approximately half of the eggs produced in the United States contain a USDA Grademark seal, which means that some of these production claims are verified based on USDA definitions of these terms.

According to the USDA, a cage-free production system allows the hens to "roam vertically and horizontally in indoor houses," where they can "exhibit natural behaviors" in an environment which "includes enrichments such as scratch areas, perches and nests" ("Questions and Answers", 2015). A free-range production system builds on the cage-free environment to include "continuous access to the outdoors" for the laying hens ("Questions and Answers", 2015). This outdoor space may be a fenced off area and/or screened off with netting-like material. Additionally, in both production systems the hens must be able to move around in the barn "in a manner that promotes bird welfare" ("Questions and Answers", 2015).

While these definitions serve to draw a few differentiating lines between conventional,

cage-free, and free-range egg production for grademarked eggs, these lines are tenuous as the definitions lack significant details. For one, the USDA does not stipulate how much indoor or outdoor space is required per hen. Additionally, while it is required that the indoor environment include enrichments, requirements are not included to guarantee quality outdoor space for the hens. One can interpret from this that a bare slab of concrete is sufficient for meeting outdoor space requirements for free-range eggs. Similar issues surround the USDA certified organic seal, to the point that some producers have capitalized on the unclear definition of “outdoor” space. This label and related challenges will be discussed in more detail in the following section.

2.6.2 USDA Certified Organic

The American organic farming movement is commonly attributed to J. I. Rodale, a health-conscious New Yorker who founded *Organic Gardening and Farming* magazine in 1940. The magazine became a platform used by Rodale to promote the ideas of Sir Albert Howard (1873-1947), an agronomist and proponent of organic agricultural practices. Howard’s methods were rooted in the humus-farming movements that spread throughout Great Britain and continental Europe in the 1920s through 1950s; largely triggered by an increase in the use of synthetic fertilizers and pesticides in agriculture. Humus farming centered on achieving high quality food and agricultural sustainability by building soil fertility (Coffey & Baier, 2012). Similarly, Sir Howard believed that organic farming practices could not only enhance soil fertility, but could also protect human health by halting the use of chemical fertilizers (Harrison, 2008). The magazine’s popularity surged as the national environmental movement took shape in the 1960s and 1970s. During this time, organic agricultural practices moved to the forefront of public interest as concern over the use of fertilizers and pesticides in conventional farming increased.

In the absence of federal organic standards, the demand for organic products led to the

proliferation of independent organic certification standards that varied from one certifier to the next. Also common at this time was the misuse of the organic label by producers seeking to boost sales. Ultimately, Congress began the process of creating a consistent set of U.S. standards for organic production, labeling, and marketing. In November of 1990, the Organic Food Production Act (OFPA) was passed with the primary goal of creating national organic standards to govern the production and marketing of organic products. The OFPA authorized the USDA to establish an organic certification program and to create the National List of approved substances for use in organic production. The National Organic Program (NOP) was created to serve as a regulatory program of the USDA, responsible for developing and enforcing the organic standards. Producers and handlers – individuals or businesses who process organic products – who sell their goods under the organic label must undergo an annual inspection conducted by a third party, USDA-accredited certifying agent for first-time certification and certification renewal (Coffey & Baier, 2012). The NOP accredits and oversees the certifying agencies responsible for the inspection process. The OFPA also mandated the creation of the National Organic Standards Board (NOSB), an advisory board made up of producers and handlers, retailers, environmentalists, scientists, certifying agents, and consumer advocates. The role of the NOSB was to guide the creation of the first organic standards and the National List, and the advisory board continues to serve in this capacity as revisions and/or new standards and approved substances are proposed.

The organic standards went into effect in October 2002, becoming part of the United States Code of Federal Regulations (CFR). The CFR encompasses approximately fifty titles or topics and contains the rules and regulations issued by federal agencies pertaining to the respective titles. Agriculture falls under Title 7 of the CFR, and the National Organic Program can be found under Part 205 (“National Organic Program”, n.d.). The standards promote more sustainable agricultural

practices which prohibit dependence on pesticides, residues, GMOs, antibiotics, growth hormones, and artificial food additives, to name a few (Coffey & Baier, 2012). Organic agriculture is defined as a production system that “respond(s) to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biological diversity” (Coffey & Baier, 2012, p. 3). In livestock production, “organic management seeks to optimize production at a level that simultaneously promotes animal health and welfare and considers the health of the whole farm system” (Coffey & Baier, 2012, p. 18). Thus, producers are required to accommodate the natural behaviors of their animals, and to provide them with nutritious feed, sanitary living conditions, and low-stress environments.

A number of regulations allude to these requirements: regulation § 205.239(1) requires that producers provide “year-round access for animals to the outdoors, shade, shelter, exercise areas, fresh air, clean water for drinking, and direct sunlight, suitable to the species, its stage of life, the climate, and the environment...” (“Livestock Living Conditions”, n.d.). Outdoor access may be temporarily denied under certain conditions according to regulations § 205.239(b) and § 205.239(c) (e.g. inclement weather); however, the standards prohibit “continuous total confinement of any animal indoors” (“Livestock Living Conditions”, n.d.). Regulation § 205.239(a)(4) requires that shelter provide the animals with the opportunity to exercise, protection from extreme temperature, adequate ventilation and air circulation, the ability to express comfort, natural grooming and maintenance behaviors, a low-hazard environment to prevent injury, and appropriate bedding for each species (Coffey & Baier, 2012, p. 66). Additionally, regulation § 205.238(a)(4) calls for the “provision of conditions which allow for exercise, freedom of movement, and reduction of stress appropriate to the species” (“Livestock Health Care”, n.d.). According to the USDA Organic Livestock Producers Guide, “all animals benefit from having

room to carry out normal behavior (e.g., grooming, play, natural maintenance, and comfort behaviors),” leading to improved muscle tone, reduced stress, a boosted immune system, and enhanced well-being (Coffey & Baier, 2012, p. 49).

At first glance, these regulations appear to support enhanced welfare standards in livestock production. Upon closer examination however, it is clear that they serve as more of an ambiguous guide, wide open to a variety of interpretations, rather than strict and clear criteria that producers must adhere to and which consumers can place their trust in. For example, while the regulations call for freedom of movement for the animals, they do not state specific indoor and outdoor space allowances that must be provided to each animal. Rather, producers are advised to avoid overcrowding by maintaining an appropriate level of animals (Coffey & Baier, 2012, p. 48). In the case of egg-laying hens, it is unclear how producers and certifiers determine what constitutes as ‘freedom of movement’ without more specific guidelines, and how this compares to space allowances provided in other cage-free, free-range, or pasture-raised production systems. Additionally, while the regulations require year-round outdoor access for all livestock, further information detailing how this requirement is operationalized at the farm level is lacking. For example, when weather and other circumstances permit, are laying hens provided with 6 to 8 hours of access to the outdoors during daylight hours? The USDA admits that “...the practical application of outdoor access has varied greatly between producers and certifiers...” (Coffey & Baier, 2012, p. 97), and that “certifiers currently differ in their interpretation of the regulations, especially with respect to the nature and extent of outdoor access” (Coffey & Baier, 2012, p. 97). When it comes to the quality of outdoor space required, the standards are clear that producers are not obligated to provide non-ruminants with access to pasture. As such, egg-laying hens “may be kept on concrete or dirt lots for all stages of production as long as the living-conditions

requirements – access to the outdoors, fresh air, direct sunlight, space to exercise, shade, shelter from inclement weather, clean drinking water, and bedding as appropriate – are met” (Coffey & Baier, 2012, p. 67). What has become a point of contention in the past few years however, is the term ‘outdoors’ and what constitutes as being outdoors. This has resulted in creative interpretations of the outdoor requirement in egg production and will be discussed in more detail in chapter 3.

While the organic program is backed by federal regulations and has traditionally been touted as the model for sustainable agriculture, including enhanced animal welfare, there is presently a lack of consistency in how the organic egg production system is implemented from one producer to the next. In other words, the same seal currently represents two very different egg production systems that may or may not provide the hens with meaningful access to the outdoors. Furthermore, the indoor space requirements are also vague. Until a time when this is rectified, consumers interested in enhanced hen welfare should look for USDA certified organic eggs that contain an additional third party label, such as Certified Humane or American Humane Certified. Producers selling eggs under these third-party certification programs in addition to USDA certified organic must adhere to additional requirements set forth by each program, including clearly defined requirements pertaining to the amount and quality of indoor and (meaningful) outdoor space for the hens. These labels will be discussed in more detail in the following sections. Additionally, cage-free and free-range claims found on USDA certified organic eggs that also contain the Grademark seal will undergo additional inspections to verify these claims. It is important to note that laying hens raised on organic farms are purportedly raised in cage-free systems. This is not explicitly stated in the regulations, nor is it listed as one of the living-conditions requirements. According to the USDA Organic Livestock Producers Guide, organic poultry (including laying hens) are produced using either a pastured model or a house- or barn-

based model (Coffey & Baier, 2012, p.96). Acceptable marketing terms that producers can use to describe their production systems and the attributes of their organic eggs are ‘cage-free, ‘free-range’, and ‘pastured’ (Coffey & Baier, 2012, p.96). However, without more specific standards that specify requirements for each production type, the differences in space allowances from one production system to the next is unclear. According to an infographic available on the USDA website, which defines various labels found on eggs, “organic certified eggs are from uncaged hens that are allowed free range of their houses and access to outdoor spaces” (Morris, 2017). Additionally, Consumer Reports’ Greener Choices also confirms that USDA certified organic eggs come from cage-free hens (“Cage Free”, 2019). Nevertheless, it is clear that this point and many others pertaining to welfare standards in organic livestock production are in dire need of further clarification.

2.6.3 Certified Humane Raised and Handled

Humane Farm Animal Care (HFAC) is an international non-profit organization that is dedicated to improving the lives of farm animals “by providing viable, credible, duly monitored standards for humane food production and assuring consumers that certified products meet these standards” (“Egg Laying Hens”, 2018, p. i). Through a collaboration with leading animal scientists, veterinarians, and producers, HFAC developed the Animal Care Standards and the Certified Humane Raised and Handled program. The Certified Humane label can be found on beef, chicken, eggs, dairy (cow, sheep, and goat), goat, pork, sheep, and turkey. The label ensures consumers that the producers have adhered to specific animal welfare and management standards laid out in HFAC’s Animal Care Standards. Once producers satisfactorily complete the initial application and inspection to become certified, they continue to undergo third-party inspections on an annual basis. These inspections are conducted by individuals who have expertise in the

species they are inspecting. To remain certified and to continue placing the Certified Humane label on their products, producers must comply with and show that 100% of standards are met (“Humane Farm Animal Care”, 2013). In other words, this is a pass/fail inspection process. One of the assurances provided by the Certified Humane label is that animals are never confined to cages, crates, or tie stalls, and must be free to roam and engage in natural behaviors.

When it comes to egg-laying hens, the minimum standards require that they have “sufficient freedom of movement to be able, without difficulty, to stand normally, turn around, and stretch their legs and wings” (“Egg Laying Hens”, 2018). Additionally, environmental enrichments are required to allow the hens the opportunity to exhibit their natural behaviors. Access to the outdoors, however, is not a minimum requirement. The indoor space required per hen for the various housing types is as follows: for the standard single-level house, HFAC requires 1.5 sq. ft. of space per hen (approximately 14.5 by 15 inches); houses with a raised slatted area require 1.2 sq. ft. of space per hen (approximately 13 by 13.3 inches); and houses with multiple tiers that accommodate 55% of the hens for perching are required to provide 1 sq. ft. of space per hen (12 by 12 inches). The industry standard (typically a single-level house) provides between 1 and 1.2 sq. ft. of space per hen (12 by 12 inches – 13 by 13.3 inches) depending on the breed of the hen (“Egg Laying Hens”, 2018). What this mean is that eggs containing the Humane Certified label are guaranteed to be cage-free, but the floor space required per hen marginally exceeds the industry norm for this production type. Outdoor access is only guaranteed when the Certified Humane label is accompanied by a free-range or pasture-raised label claim.

HFAC defines free-range as “a management system in which adult birds are kept in houses with daily access to an uncovered outdoor area” when the weather permits (“Egg Laying Hens”, 2018, p. 13). When possible, the outdoor space should be covered by living vegetation. When that

is not possible, gravel, straw, mulch, or sand are acceptable alternate materials for ground covering. Additionally, laying hens must have access to the outdoors for a minimum of 6 hours per day during daytime hours, unless inclement weather or other emergency/veterinary issues prevents this. The outdoor space must also contain shaded areas for the hens, as well as shrubs, trees, or other structures to encourage full use of the range and to provide safe shelter from overhead predators. Free-range producers must develop and implement a range management plan that includes steps for rotating the range area, which allows for the re-growth of grazed areas and reduces the risk of parasite and pathogen build-up. The minimum indoor space requirements are supplemented by a required additional 2 sq. ft. (approximately 16 by 18 inches) of uncovered outdoor space per hen.

HFAC recognizes two types of pasture-raised production systems: pasture-raised and seasonal pasture-raised. The key difference is in the term ‘seasonal’, where seasonal pasture-raised hens are given access to the outdoors during the months where pasture is “exposed and available to the hens,” and the temperatures are not too cold (“Egg Laying Hens”, 2018, p. 13). This label will not be discussed since it is not one of the label options provided to consumers at Whole Foods Market or Kroger within the study area. Pasture-raised is defined as “a management system where adult birds are kept on pasture 12 months of the year, in an outside area that is mainly covered with living vegetation” (Egg Laying Hens”, 2018, p. 13). Birds are kept indoors at night to protect them from predators, but cannot be kept continually indoors for 24 hours for more than 14 consecutive days. The outdoor pasture area must consist of living vegetation. Hens must also be provided with shaded areas to rest outdoors, and coverage in the form of shrubs, trees, and other structures to instill a sense of safety and encourage pasture usage. Additionally, the pasture must include areas for dustbathing. Producers must also develop and implement a plan that includes

pasture rotation to prevent contamination from parasites and disease, and to allow the land to recover and re-vegetate. In addition to the minimum indoor space requirements, producers are required to provide 2.5 acres of outdoor space for every 1,000 birds (Egg Laying Hens”, 2018), which equates to 108 sq. ft. per hen.

The Certified Humane label demonstrates its significance by establishing clear, detailed and verified standards for how animals should be raised and managed in food production. In many regards, these standards are improvements to the industry. However, when it concerns animal welfare, the label’s minimum requirements do not always surpass industry standards. Likewise, Greener Choices does not rate this label as highly meaningful for animal welfare due to the fact that “the standards do not have certain requirements that a majority of consumers expect from a ‘humanely raised’ label” (“Certified Humane”, 2019). According to a 2016 consumer survey, 86% of consumers believe that a ‘humanely raised’ label claim should mean that the animals are provided with adequate living space, 66% believe that the animals should be raised without cages, and 78% believe they should have access to the outdoors (“Certified Humane”, 2019). While the standards do prohibit the use of cages, outdoor access is not a minimum requirement and the indoor space allowances are not a significant improvement to industry standards. Furthermore, hens raised under the free-range production system are not afforded a great deal of outdoor space to roam. That being said, hen welfare as it pertains to amount and quality of space improves vastly in pasture-raised production.

2.6.4 American Humane Certified

The American Humane Association (AHA) is a non-profit organization founded in 1877 with the goal of ensuring the “safety, welfare and well-being of animals” (American Humane, 2019). The organization offers an array of programs to address various industries and conditions

which necessitate the observance of humane animal practices. American Humane Certified is one such program that was developed by AHA to ensure the welfare of farm animals used in food production. This label is found on beef, chicken, pork, turkey, dairy, and eggs. The standards were developed by an independent scientific advisory committee made up of experts in the fields of agriculture, animal behavior, and animal ethics (“Five Freedoms”, 2016). The standards are centered around the Five Freedoms of Animal Welfare, which are derived from the Brambell Report, a 1965 inquiry into the welfare of animals used in food production, and codified by the Farm Animal Welfare Council in 1979. Since that time, a number of veterinary and other organizations have adopted the Five Freedoms as the basis for their own approach to upholding animal welfare standards. The Five Freedoms include freedom from hunger and thirst, freedom from discomfort, freedom from pain, injury and disease, freedom to express normal and natural behaviors, and freedom from fear and distress (Elischer, 2019). Producers who sell their products under the American Humane Certified label must undergo independent, third-party audits on an annual basis to verify compliance with the standards. In order for producers to become certified or to qualify for re-certification, 85% of the required standards must be met and corrective action must be taken to resolve any issues identified during the audit (“American Humane”, 2019).

When it comes to egg-laying hens, the standards require that the hens are raised in an environment that considers their welfare and is “conducive to good health,” protects them from physical harm and the elements, and allows them to engage in natural behaviors (“Animal Welfare Standards”, 2019). The program certifies three different types of production systems: enriched colony housing, cage-free, and free-range/pasture-raised (free-range and pasture-raised systems were combined into a third production category with the addition of the enriched colony housing system). In 2010, the AHA announced that it would begin accepting enriched colony housing

systems under the American Humane Certified program. In doing so, producers were afforded two alternatives to the battery cages used in conventional egg production– the cage-free system and the enriched colony housing system (“Animal Welfare”, 2014). According to AHA:

American Humane Certified will not certify conventional cages, but has determined that enhanced colony housing is scientifically acceptable, in part because the system provides nesting boxes and perches, in addition to other enrichments, which allow hens to exhibit natural behaviors. (“American Humane Approves Enriched Colony Hen Housing”, 2010)

AHA’s CEO, Robin Ganzert, went on to state that

More and more farmers are converting from old cramped cages to this humane housing for hens as retailers and consumers expect higher animal-welfare standards. (“Animal Welfare”, 2014)

While definitions and requirements for the cage-free and free-range/pasture-raised production systems are detailed in their respective standards documents, similar information for the enriched colony housing system is not currently available. Alternate sources describe this type of housing system as a caged system which provides the hens with more space than conventional cages, and includes enrichments like nesting boxes, perches, and scratching pads. Some enriched colony housing systems may include cages that can be opened during the day to allow the hens to move about freely and access enrichments in their environment (“American Humane”, 2019; “Enriched Colony”, 2016; Whetstone, 2015). Based on information collected by Consumer Reports’ Greener Choices, the American Humane Certified standards for enriched colony housing systems require a minimum of approximately 0.8 sq. ft. of space per hen (around 10 inches by 11.6 inches). This slightly exceeds space allowances in conventional cages, which is approximately 9 inches by 7.5 inches per hen (“American Humane”, 2019). Additional vital information pertaining to this housing system is undetermined since as previously mentioned, the standards have not been made available. First, it is unknown whether the hens are confined to cages full time, or if they are allowed to roam freely during the day and for how long. Additionally, it is unclear whether the

stand-alone American Humane Certified label indicates that the eggs come from hens raised in an enriched colony housing system, or if consumers should expect to find this additional information labeled on their egg cartons. Currently, the only label claims accompanied by the American Humane Certified label that were found on egg cartons during this study are the cage-free, free-range, and pasture-raised labels.

When the American Humane Certified label is accompanied by a cage-free label, this ensures that the eggs come from hens that are not confined to cages of any type. Indoor space must provide each hen with enough room to move around, stand, stretch their wings, and perch. In single-level houses with all-litter floors, the minimum space allowed per hen is 1.5 sq. ft. (roughly 14.5 inches by 15 inches), compared to the industry standard of 1.0 sq. ft. to 1.2 sq. ft. depending on the breed of the hen (approximately 12 inches by 12 inches of space). In multi-tiered houses, or ones with perches over a litter belt, the minimum space allowed is between 1.0 and 1.2 sq. ft. per hen depending on the breed (approximately 12 inches by 12 inches of space). Indoor space may be supplemented by additional outdoor space. While it is not required for cage-free producers to provide the hens with access to the outdoors, the standards outline requirements for those producers who may choose to offer this additional space allowance. In such instances, the standards require that the outdoor area is large enough to accommodate the flock, and is managed successfully to prevent pathogen contamination and to maintain vegetative cover. Additionally, the space must provide shade and coverage to protect the hens from the elements and from predators.

Outdoor access is guaranteed when the American Humane Certified label is accompanied by a free-range or pasture-raised label. In addition to the indoor space allowances laid out in the cage-free production system, free-range hens are provided with a minimum of 1 acre of overall

outdoor space per 2,000 hens, or 21.8 sq. ft. (4 feet by 5.45 feet) per hen. Pasture-raised hens are provided with a minimum of 2.5 acres of overall outdoor space for every 1,000 hens, or 108 sq. ft. per hen (10.4 feet by 10.4 feet). The standards require that one quarter of the overall outdoor space is made available to the hens at all times when they have access to the outdoors. That equates to approximately 5.45 sq. ft. of outdoor space per hen (2.3 feet by 2.3 feet) in free-range production, and 27.2 sq. ft. of outdoor space per hen in pasture-raised production (5.2 feet by 5.2 feet) (“Animal Welfare Standards for Laying Hens – Free Range & Pasture”, 2019; “American Humane”, 2019). According to the standards, “restrictions to the access of the remaining total required area must be temporary for resting/reseeding/management of ground and/or as scheduled per the defined rotation program” (“Animal Welfare Standards for Laying Hens – Free Range & Pasture”, 2019). Unfortunately, additional information regarding best practices and/or requirements for range rotation is not provided. Therefore, it is unclear whether producers can in fact prevent the hens from accessing a majority of the range at all times as long as it has been defined in their rotation program. Producers who choose to implement a rotation plan are required to supply documentation outlining the rotation schedule (or relocation schedule if using mobile housing) and to specify how this will impact hen access to the range or pasture. That being said, this information is not readily available to consumers online to clarify how much outdoor space is truly allotted to each hen. Additionally, the standards do not elaborate with a timeframe for ‘temporary’ restrictions, meaning the hens could be limited to a smaller outdoor area for a few days, a few weeks, or even several months out of the year.

In both production systems, producers are required to provide the hens with 8 hours of outdoor access during daylight hours, as long as the weather permits. The outdoor space must be partially covered and provide shaded areas for the hens; however, areas for dustbathing are not

required. Producers must also have an active management plan in place to ensure that the space is covered in vegetation. Hens are allowed to be kept indoors at night, when temperatures are extremely cold or hot, during adverse weather conditions, and for emergency situations as determined by the veterinarian on staff (“Animal Welfare Standards for Laying Hens – Free Range & Pasture”, 2019). Again, the standards do not elaborate more on this, so presumably each individual producer decides when temperatures are hot or cold enough to keep the hens indoors. However, restricting access to the outdoors for weather-related reasons cannot exceed 90 days. Upon applying to become certified under the American Humane Certified program, pasture-raised egg producers are required to provide evidence that the location of their farm is climactically suitable and conducive to the hens spending a majority of the year outdoors on pasture-land that is covered in vegetation (“Animal Welfare Standards for Laying Hens – Free Range & Pasture”, 2019).

As the above discussion indicates, American Humane Certified is both buttressed by distinct standards which promote improvements to the industry, and weakened by ones that are not clearly defined and which diminish the welfare implications of the label. It is important to note that that like Certified Humane, some of these improvements under this program do not significantly surpass the industry norm, as demonstrated by the space requirements for enriched colony housing and cage-free systems. Moreover, outdoor access and space allowances for free-range and pasture-raised systems have the potential to be highly misleading depending on how the term ‘temporary’ is interpreted by the producer and/or how producers define their rotation plan. This and other vague terminology indicates that while many expectations of the program are clearly outlined, gaps in the standards do exist. These gaps allow for interpretations of the standards to vary from one producer to the next, and for differing processes to be defined through

supplementary plans that are not readily available to the public. Thus, several producers with different approaches to one production system may sell their eggs under the same production label. When this variation in approach results in a difference of 5.45 sq. ft. versus 21.8 sq. ft. of outdoor space per hen, for example, that is a discrepancy that consumers of free-range eggs should be made aware of and which may impact their support for a specific brand of egg and/or certification. Such challenges with the standards, along with the organization's decision to support enriched colony housing systems as a "humane" form of caged production overrides many of the improvements promoted by American Humane Certified.

2.7 Methodology, Survey Results, and Discussion

An online survey was used to collect information from consumers regarding the type of non-conventional eggs they purchase from one or both supermarkets within the study area. The survey was designed around the notion that "knowledge about labels and the standards they are based on can play a significant role in influencing purchase decisions" (McEachern & Warnaby, 2008 cited in Grunert et al., 2014). The goal was to gauge consumers' perceptions of various egg eco-labels to determine how their understanding aligns with the realities of each production system, and to highlight key influencing factors – such as images and verbiage placed on egg cartons – that shape these perceptions.

Content analysis was used to analyze both the survey responses as well as information on the egg packaging for a number of brands reported in the survey. This method was the most suitable way to identify key themes in the data and to better understand the relationship between consumers' perceptions of the non-conventional eggs they purchase, information provided to them on eco-labeled egg packages, and true conditions of production (Dittmer, 2010; "Content Analysis", 2019). Additionally, the concepts manually coded for during the analysis were not pre-

determined and instead were decided as patterns emerged in the survey responses, and packaging text and images.

2.7.1 Study Area

The study area for this research was Whole Foods Market and Kroger supermarkets located in the following counties within the state of Texas: Collin, Dallas, Denton, Ellis, Hood, Hunt, Johnson, Kaufman, Parker, Rockwall, Somervell, Tarrant, and Wise. These counties make up what is commonly known as the Dallas-Fort Worth metroplex or DFW. Both Whole Foods Market and Kroger were ideal study areas for this case study because they are uniquely positioned as supporters of sustainable agrifood systems and are driving change within their own supply chains. Furthermore, each represents a different type of retail store (more specialized with Whole Foods Market and more traditional with Kroger) and are patronized by a different customer base.

2.7.2 Survey Design, Overview, and Challenges

A 15-minute online survey was designed using SurveyMonkey. A request for survey respondents was announced using an online flyer that was shared on my personal Facebook page and posted within a number of community groups. It is important to note that none of the community groups were animal-welfare- or sustainability-related to reduce bias in the responses. The flyer included a brief and general description of the research so as not to influence survey responses, and a link to access the survey. The survey contained primarily structured questions, with text boxes available for respondents to elaborate on their answers (see Appendix A for full list of survey questions). Upon selecting the type of non-conventional eggs the consumer typically purchases, subsequent questions were intended to build on this initial response and provide more details as to how the respondent perceives this particular type of egg. Unfortunately, a few unexpected challenges with the survey impacted the effectiveness of the survey structure as well

as the overall response rate.

First, upon analyzing the survey responses, it became evident that many consumers are not necessarily loyal to one type of egg. Therefore, it was impossible to know the specific eco-label referenced in responses to any follow-up questions pertaining to this information, unless additional details were included in the text box provided. For this reason, all quotes used from the survey include the type or types of eggs purchased by the respondent in parentheses at the end of the quote. Additionally, data collected for some of the follow-up questions was not usable. Second, all survey questions, except for the final optional question, required a response in order for the respondent to move forward in the survey. Unfortunately, this function failed in SurveyMonkey and respondents were able to skip questions. Respondents who failed to complete the main portions of the survey pertaining to their consumption practices and perceptions of eco-labels, and/or who failed to complete the qualifying questions were eliminated. Overall, 87 respondents completed the qualifying survey questions and a number of questions in the main survey sections. However, because respondents were able to skip questions, the total number of responses varied by question and do not align with the overall response rate. Therefore, the respondent percentages discussed in the following sections reflect the number of respondents for each question.

2.7.3 Consumer Differentiation of Egg Eco-labels

When survey participants were asked to indicate the type of non-conventional eggs they typically purchase, responses revealed that a majority (72%) are not loyal to one type of egg eco-label. In other words, one consumer may alternate between purchasing certified organic, cage-free and free-range eggs at various times, rather than strictly choosing one type of egg a majority of the time. Table 2.1 shows the type of non-conventional eggs consumers typically purchase:

Table 2.1

Type of Non-Conventional Eggs Typically Purchased

Eco-Label	Survey Responses
Cage-Free	49%
USDA Certified Organic Cage-Free	49%
USDA Certified Organic Free-Range	41%
Free-Range	36%
Pasture-Raised	30%
USD Certified Organic Pasture-Raised	21%
USDA Certified Organic	15%

Note. N=61 respondents. Total responses=152 - consumers were able to select multiple options.

This outcome was somewhat unforeseen during the planning stages of the survey, as it was designed with the assumption that most consumers are loyal to one type of non-conventional egg. While this was unexpected, the results proved to be significant and demonstrates that to a degree, many consumers do not recognize notable differences between the various egg eco-labels discussed in this study.

A plausible explanation for this is that the profusion of eco-labels for this product category has resulted in consumer confusion about the guarantees each eco-label provides (Brécard, 2014). Thus, consumers choose an eco-label "...according to the image it conveys, rather than [the] intrinsic quality it guarantees" (Brécard, 2014, p. 2). In other words, as consumers struggle to decode the true meaning behind the various eco-label options available to them, their perceptions and purchasing decisions may ultimately be informed by egg brands with the most compelling images and statements on their egg packaging (see section 2.6.5 for my analysis of egg packaging content). An alternate explanation is that consumers may recognize these differences to a degree,

but believe that choosing any of the eco-label options available to them is better than purchasing conventional eggs. This scenario is also problematic in that as the above discussion reveals, there are a number of instances where eco-label claims are meaningless and/or unverified and may not represent significant changes to conditions of production as consumers are led to believe.

Survey responses revealed that consumers are indeed confused about the meaning behind egg eco-labels. For example, 80% of consumers reported that access to fresh air, sunlight, and grass and dirt are ‘very important’ aspects of hen welfare. 25% of these consumers went on to rank the cage-free, organic cage-free, and organic eco-labels as a 5 and above on a 10-point scale, with 10 representing production systems that provide the hens with meaningful indoor and outdoor space. However, none of the production systems listed guarantee access to fresh air, sunlight, or grass and dirt. When asked how simple it is to understand the meaning behind eco-labels based on information provided on egg-packing (e.g. eco-label and additional statements and images), 50% of consumers responded that it is ‘not simple at all’. According to one consumer, “eco-labeling is confusing and extremely misleading to the average consumer who has not done any research on the topic!” (pasture-raised).

The green consumerism model however, rests on the notion that consumers have the necessary information, via eco-labeling schemes, to understand conditions of production and to make informed purchasing decisions. In the following sections, I will provide additional evidence demonstrating that consumers are not well-informed and in many instances, are misled by the information available to them. This is problematic, particularly within the context of green consumerism, where consumers are burdened with the collective responsibility of pulling the levers of change – through their own consumption choices – that will ultimately signal necessary improvements to industry practices.

2.7.4 Consumer Perceptions of Non-Conventional Eggs

Survey responses revealed that while consumers' purchasing decisions are based on a variety of perceptions about non-conventional eggs, the desire to support enhanced hen welfare standards is a leading factor for a majority (72%) of consumers. Respondents were also provided the opportunity to describe, in their own words, their reasons for choosing the type of eggs they typically purchase. The purpose of this question was to gain additional insight into their perceptions of non-conventional eggs. Content analysis of the responses revealed a number of key themes in the ideas and beliefs that frame consumers' perceptions about non-conventional eggs.

36% of respondents recognized hen welfare/ethical production practices as their primary reason for purchasing non-conventional eggs. As one respondent stated: "I want my family's eggs to come from healthy chickens who are fed quality feed and [are] treated humanely" (organic free-range and organic pasture-raised). According to a second respondent:

Factory farms use misleading labels like 'cage free' or 'free range' to make consumers think they are buying from happy chickens, but these labels are not well regulated and they may be used in circumstances that are not humane. My wife and I care about the animals that produce our food. (pasture-raised, organic pasture-raised)

One respondent prefers to "...avoid supporting unethical living conditions for chickens" (free-range), while another stated that purchasing organic free-range eggs "seems like better conditions for the hens." Purchasing non-conventional eggs, according to one respondent, "feels better on my conscience" (cage-free and free-range).

Similarly, 28% of respondents indicated the importance of hen welfare/ethical production practices in achieving other valued attributes in the eggs they purchase. In other words, these consumers believe that enhanced welfare standards for laying hens results in an overall better egg. Examples include health and nutritional content, quality, taste, and even appearance of the eggs. One respondent explained that she only purchases pasture-raised eggs because "...the hens are

given adequate outdoor space to roam and feed in their natural habitat, resulting in the most nutritionally dense eggs available from a grocery store.” On the other hand, 25% of respondents were primarily concerned with the health and nutritional content of the eggs rather than hen welfare/ethical production practices. For one respondent, a key benefit of consuming non-conventional eggs is to avoid antibiotics and other chemicals. Additionally, this individual believes that a “...healthier diet and less stress for the chicken means healthier eggs” (certified organic pasture-raised). Another respondent purchases non-conventional eggs because the hens raised in these production systems are healthier and provide eggs that contain “...more nutrition for the humans in [her] family...” (certified organic cage-free, free-range, certified organic free-range, certified organic pasture-raised, and certified organic). Another individual explained that hens raised as naturally as possible – “free-roaming outside, no cages, enclosures, etc.” – are healthier and in turn, lay better eggs (pasture-raised).

Non-conventional eggs are also perceived by respondents to be of higher quality (18%), to be better in appearance (7%), and better-tasting (15%) than conventional eggs. According to one respondent, the yolks are fuller compared to conventional eggs “...where the yolks are light yellow and not fluffy enough” (certified organic cage-free, certified organic free-range, pasture-raised). One respondent described the quality of non-conventional eggs as “superior” (cage-free, certified organic cage-free, certified organic free-range, pasture-raised). Another respondent stated that “...you can definitely tell the difference as soon as you crack [the eggs] open” (certified organic cage-free, free-range, certified organic free-range, pasture-raised, certified organic pasture-raised, certified organic).

2.7.5 Greenwashing and Non-Conventional Egg Packaging

In addition to the eco-label claims themselves, accompanying images and statements

displayed on the outside of egg packaging play a vital role in further influencing how consumers perceive non-conventional eggs. This marketing space is used by egg producers and purveyors to set their eggs apart from other similar egg types and brands as they vie for consumer preference. Unfortunately, this often results in an over-abundance of information provided to the consumer. Similar to the meaning behind eco-label claims, information on egg packaging can be vague, misleading, or appear significant, but in reality fail to inform the consumer about conditions of production. For some consumers, this has resulted in a sense of mistrust around the integrity and usefulness of the information. When asked how confident they feel that information provided on egg packaging informs their purchasing decisions, 36% of survey respondents reported feeling ‘very little trust’ in the information. One consumer stated:

Consumers are constantly misled by ever changing labels and undefined phrases. I just buy the ones that sound the best for the hens in hopes that the hens are cared for in a humane manner. (certified organic free-range, cage-free)

The use of ‘undefined phrases’ on egg packaging can attract consumers’ attention while also creating uncertainty around the meaning behind the information. One consumer described such a dilemma: “the label states ‘hens raised in humane manner’ but I don’t know the company’s idea of ‘humane’” (certified organic free-range, cage-free). In spite of this skepticism, 37% of survey respondents reported that information placed on egg packaging has influenced their decision to purchase a specific brand of non-conventional eggs. Meaning that information placed on egg packaging, while not always accurate or meaningful, still has the ability to shape consumers’ perceptions and understanding of the production system.

Content analysis of the packaging for the top brands of eggs reported in the survey (see Table 2.2) revealed numerous examples of misleading advertising, showcasing the prevalence of greenwashing in the promotion of non-conventional eggs. Greenwashing is often the result of

embellishing the benefits of a product or service so that it appears more sustainable than it actually is (Edwards, 2018; “Greenwashing: The Enemy of Sustainability”, 2019).

Table 2.2

Brand of Non-Conventional Eggs Typically Purchased

Egg Brand	Survey Responses
Simple Truth (Kroger private label)	41%
Organic Valley	31%
Vital Farms	21%
Eggland’s Best	21%
The Happy Egg Co.	13%
365 Everyday Value (Whole Foods Market private label)	7%
Pete and Gerry’s	3%
Jeremiah Cunningham’s World’s Best Eggs	2%

Note. N=61 respondents. Total responses=133 - consumers were able to select multiple options.

The use of “fluffy language” that has no clear meaning but which may be interpreted by consumers to fit a specific narrative (e.g. the use of the label natural/all-natural on eggs); the use of suggestive images (e.g. images like large green pastures that may not fully support the production system of a particular type of egg); irrelevant claims that divert attention away from unsustainable practices; and the use of claims that are not supported by proof and which cannot be proven by consumers are other ways in which greenwashing can occur (“Selling Sustainability”, n.d.). Many of these strategies are present in the examples used in this study.

A number of themes emerged from the analysis of egg packaging:

1. Romanticizing the Farm

A central theme across a majority of the egg cartons is the emphasis placed on ‘the farm’- particularly, small family farms – through the use of textual and visual signs (visual examples are

discussed in Theme 2). The following statements appeared on a majority of the egg cartons analyzed in this study:

- Farm fresh (Eggland's Best and Jeremiah Cunningham's World's Best Eggs)
- Raised on family farms (Happy Egg Co.)
- From small family farms (Pete and Gerry's)
- Raised right, on small family farms (Simple Truth)
- Tended by hand on small family farms (Vital Farms)
- Fresh from our family farms (Organic Valley)

Consumers may frame perceptions of freshness – as though the eggs were gathered that morning from a farm up the road; of more personal interactions with the hens and the eggs – Vital Farms informs consumers that they tend to the eggs (I presume they mean gather them) by hand; and of more ethical processes when raising the hens – Simple Truth informs consumers that their hens are 'raised right'.

Although the term 'farm' as a general way to describe a place where animals are raised is not entirely inaccurate, it is also not the most informative way to describe the various production systems represented by the above egg brands. Like many other labels and statements discussed in this study, the meaning of the term 'farm' is ambiguous. When accompanied by other terms like 'family' and 'fresh', or romanticized images like the ones discussed in theme 2, a term like 'farm' can take on new meaning when consumers' imaginations are engaged. The implicit messages conveyed to consumers is one of family wholesomeness and by extension honesty and integrity; of bringing the benefits of farm living (e.g. fresh eggs) to the consumer who is otherwise removed from the physical farm, and of supporting the small producer. Large-scale farming operations that raise 100 thousand or more egg-laying hens may not align with this consumer-imagined space. Yet, their eggs are portrayed to consumers as coming from the same place – the 'farm' – as eggs

that are supplied by production systems which more closely resemble consumers' conception of a farm. Not only does this have the potential to disguise, through romanticizing the farm, the realities of egg production as a whole, but it also makes the process of distinguishing between the different production systems all the more difficult for consumers. As such, all producers – regardless of size, production system, and standard of hen welfare – stand to benefit from the positive associations of the use of the term 'farm'. An example of a brand that strays far from this ideal is Eggland's Best, a specialty egg brand of Cal-Maine Foods Inc., the largest producer of eggs in the United States. Cal-Maine owns approximately 36.2 million laying hens and in 2019, sold approximately 1,038.9 million dozen eggs ("About Cal-Maine Foods", 2019). According to the website, Eggland's Best eggs are delivered to supermarkets within 72 hours of being laid ("Eggland's Best Organic Eggs", 2019). While this may support their use of the term 'fresh' to describe their eggs, they also use the term 'farm' to describe large-scale, factory-farm-like, egg production.

In chapter 3, I discuss how the use of vague, misleading, and/or insignificant information on egg packaging (e.g. the 'farm') enables the movement of capital into new spaces of accumulation by removing barriers – such as differences in production systems or production facilities – that would otherwise restrict the expansion of conventional producers into non-conventional market spaces.

2. Misleading Images

There are a number of misleading images displayed on the egg cartons included in this study, many of which closely relate to the idealization of the farm discussed in the first theme. The image depicted on Organic Valley's egg carton is of a child sitting in a grassy field, smiling and holding a hen (see Figure 2.1). A portion of weathered red and white barn appear in the

background. Consumers are informed that this image is associated with the Wangness Family Farm. While Organic Valley does not make a ‘small family farm’ claim on its egg cartons, the image on the carton implies this. However, further research into the Wangness Family Farm revealed that the farm raises approximately 16 thousand egg-laying hens (Organic Valley, 2011). Additionally, a video tour of the farm shows a farming operation that is quite different from the one displayed on the egg carton, sans weathered red barn (see Figure 2.2). While it is possible that the farm does have such a structure on premise, the image does not provide consumers with information about where the hens are housed and how they live, and may distort consumers’ perceptions of the production system.



Figure 2.1. Image of Organic Valley Organic Free-Range egg carton.



Figure 2.2. Image of the Wangness family farm (image retrieved from Organic Valley, 2011).

Organic Valley's brand logo provides another example of misleading imagery that has the potential to shape consumers' perceptions of the brand, the eggs, and the production system. The logo incorporates a small, red barn reminiscent of pre-industrial farming. One survey respondent made the following statement regarding the image:

I know this is not true, but it looks like a 19th century farm, with trees, grass, a barn, sky, etc. I don't like looking at it because I know it's a lie. However, the 'free range' eggs we have access to are still better than the factory farm alternative (certified organic free-range).

Pete and Gerry's egg carton also depicts an image of the classic red barn, surrounded by open pasture and a small number of foraging hens (see Figure 2.3). Consumers are introduced to the Fischer Family Farm. Based on the images depicted on the egg carton, consumers may perceive the eggs to have come from a quaint and small egg farm with an abundant amount of pasture for the hens to roam.

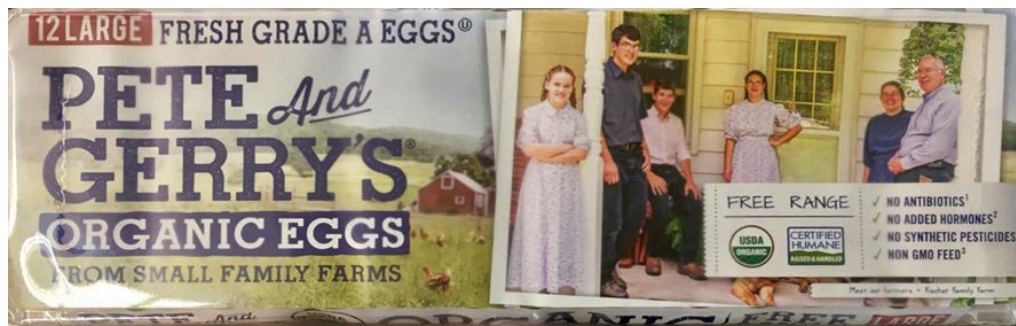


Figure 2.3. Image of Pete and Gerry's Organic Free-Range egg carton.

The presence of the Certified Humane seal indicates to consumers that the farm adheres to specific welfare standards. That being said, various aspects of this image are misleading. First, the image is an unrealistic representation of a farm's flock size. While a small family farm may in fact have a flock consisting of 500-1,000 birds, the image on the carton depicts only a handful of hens. Second, per Certified Humane standards for free-range egg production, producers are not required to provide laying hens with outdoor space that is covered in vegetation. Although vegetation is strongly recommended, the standards do allow producers to provide hens with outdoor space that

is covered in gravel, straw, mulch, or sand in place of grass. According to Pete and Gerry’s website, the hens have access to organic pasture (“Pete and Gerry’s Organic Eggs”, 2018); however, the website does not explicitly state that all farmers must provide access to pasture covered in vegetation. This is indicative of the gray areas that exist even within third-party certification programs that consumers may not be aware of without in-depth research into the program’s standards. The use of this image disguises such nuances within the standards and packages the farm and the production system in a particular way for the consumer. This can be misleading, particularly if all supplying farms do not look similar to the image placed on the egg carton. Unfortunately, additional information about the Fischer Family Farm is not available on Pete and Gerry’s website to confirm the farm’s layout. Lastly, this image may also mislead consumers into believing that each hen is provided a larger amount of outdoor space than required by the standards. In reality, each hen is provided 2 sq. ft. (approximately 16 by 18 inches) of outdoor space.

A final example discussed under this theme is Whole Foods Market’s (WFM) 365 Everyday Value organic eggs (see Figure 2.4). The image depicts the hens in a cage-free environment where they are free to roam around the hen house. This is a good representation of the tighter space allowances (compared to the previously discussed free-range production system). The interior of the hen house looks very bright, so much that there appears to be sunshine streaming in from one side of the barn that may be completely or partially open.



Figure 2.4. Image of 365 Everyday Value Organic Cage-Free Plus egg carton.

While the organic standards call for outdoor access for laying hens, as previously discussed many producers have found alternate ways of satisfying this requirement that do not involve true outdoor access. According to a statement on the egg carton, the ‘birds live indoors with perches and shelter’. The Cage-Free Plus seal located in the top right corner of the egg carton is indicative of the supermarket chain’s efforts to improve hen welfare standards in its supply chain. The label requires that:

Hens have space to move about the house freely, are provided with perches for roosting at night (their preferred sleeping method), have places to shelter from aggressive hens and bedding material on the floor to support natural hen behavior, such as dust bathing and foraging. (“Our Standards for Eggs”, 2019)

However, according to WFM’s egg standards, cage-free plus hens may or may not have access to the outdoors. As such, the image on the egg carton should not suggest an open barn for outdoor access if 100% of the producers for this production system do not provide it.

3. Misleading Statements and Claims

In addition to misleading images placed on the egg cartons, I also found examples of ambiguous and/or misleading statements and claims used to describe conditions of production. The examples discussed below pertain to the amount of space provided to the hens. Both Simple Truth and Vital Farms proudly claim that their pasture-raised hens are provided with 108 sq. ft. of outdoor space per bird (see Figures 2.5 and 2.6).



Figure 2.5. Image of Simple Truth Pasture-Raised egg carton.



Figure 2.6. Image of Vital Farms Pasture-Raised egg carton.

Each egg brand adheres to different third party standards – Simple Truth observes the American Humane Certified standards and Vital Farms follows the Certified Humane standards. While it is true that both certification programs require a minimum of 108 sq. ft. of outdoor space per bird, this is an *overall* minimum requirement. As previously discussed, space requirements change when pasture rotation plans are implemented under the AHC standards. Limiting the hens’ access to the pasture must be temporary; however, the standards do not define what temporary means. This also applies to the Certified Humane program, which permits producers to divide the overall pasture into smaller spaces. According to Mimi Stein, Executive Director of Humane Farm Animal Care, “the 108 [sq. ft.] may be divided into several pastures (up to 4-5) with birds only accessing one pasture at a time if there is an auditable *successful* rotation plan in effect.”

In both cases, the hens may have access to a quarter (or one-fifth) of the space that is advertised on the egg carton. This means that each hen has access to 27.2 sq. ft. (or less) of outdoor space rather than the stated 108 sq. ft. However, neither brand provides additional information on the egg carton to indicate this. This is problematic in that the information is not only misleading, but that it is unlikely that the average consumer would locate this information while briefly researching the brand or third-party certification program. One would need to read the egg producer’s guide for the AHC program to discover this information, and contact Certified Humane

directly as they do not list this information in their standards. Rotating pasture is an environmentally sustainable way of allowing the land to regenerate without the use of synthetic fertilizers. While producers should be encouraged to implement such plans, the claims on the egg cartons should also be updated to reflect the amount of space that is most often provided to the hens, which is not 108 sq. ft. per bird. These examples demonstrate that although third-party certified eco-labels provide the most guarantee to consumers in terms of the attributes discussed in this study, there are still instances of misleading information surrounding such eco-labeling schemes that may impact consumers' purchasing decisions.

2.8 Conclusion

As this chapter demonstrates, the present landscape of egg eco-labels is succeeding at deceiving, misinforming, and at times overwhelming the consumer with an excess of information that fails to effectively inform their purchasing decisions. This case study reveals that unbeknownst to many consumers, stand-alone eco-labels such as cage-free, free-range, pasture-raised, and even the organic label are not backed by standards that guarantee a specific amount and quality of space provided to the hens. Short of visiting the farm in person, consumers have no way of verifying the standards under which each type of egg is produced. Further complicating this is the fact that without clear definitions and regulated standards, the meaning behind each eco-label may vary from one producer to the next. Where one free-range egg producer provides the hens with outdoor access to grass-covered pasture, another may provide a small dirt- or gravel-covered lot. Both can sell their eggs under the same free-range eco-label and for a premium compared to conventional eggs, and even cage-free eggs. The outcome of this is that consumers who truly care about selecting the more sustainable product may very likely be led astray by misleading images and meaningless and/or ambiguous verbiage.

Currently, third-party eco-labels, such as Certified Humane or American Humane Certified, provide the most comprehensive and transparent set of standards that are also verified through annual inspections. That being said, based on the findings in this case study, these labels are not problem-free and were linked to instances of greenwashing and the use of misleading information on egg packaging. This indicates that eco-labeling schemes in their present form, whether stand-alone, government-regulated, or third-party, are not an entirely reliable source of information for the consumer. This contradicts a key claim of the green consumerism model – that consumers, using information provided by eco-labeling schemes, can communicate their preference for certain products and support more sustainable production processes through their purchasing decisions. The findings in this chapter cast a great deal of doubt around the value of eco-labeling schemes and the effectiveness of green consumerism in achieving SCP. This examination of green consumerism continues in chapter 3, with a deeper look at the organic egg industry and efforts to maintain stricter hen welfare standards in organic egg production.

CHAPTER 3

CASE STUDY PART II: GREEN CONSUMERISM AND THE STRUGGLE FOR HEN

WELFARE IN THE ORGANIC EGG INDUSTRY

3.1 Introduction

Chapter 2 focused on the merits of green consumerism through a discussion of a select group of eco-labeling schemes found on eggs. This examination revealed key challenges associated with the use of eco-labeling schemes as a tool to inform consumers' purchasing decisions, and the implications to consumers' role as change agents of the market economy. The goal of this chapter is to explore whether contemporary green consumerism does in fact lead to changes in production processes. Through a discussion of the organic egg industry's pursuit to codify hen welfare standards and safeguard the integrity of the organic program, I reveal a series of delays and setbacks that call to question not only the efficacy, but the true motive of green consumerism. Drawing on David Harvey's theory of the spatial fix, in which crises within capitalism are resolved by locating new spaces of accumulation through various forms geographic expansion and restructuring, I argue that conventional egg producers' expansion into the organic egg industry is a spatial fix to resolve a crisis of overaccumulation in the conventional market. This reveals deeper challenges related to the notion of green consumerism as the pathway to sustainable consumption and production (SCP).

3.2 The Real and the Faux Organic

The U.S. organic market is a rapidly growing industry, with reported growth of more than 20 percent annually since 1990. In 2018, the industry reached \$52.5 billion in sales – an increase of 6.3 percent from the previous year (USDA, 2018; Organic Trade Association, 2019). Organic food sales reached \$47.9 billion in 2018 – a 5.9 increase from the previous year (“Organic Industry

Survey”, 2019) - and is projected to exceed \$70 billion by 2025 due to increasing consumer demand (“How Big is the Organic Food Market?”, 2019). Organic food is presently carried in over 70 percent of supermarkets at a premium that is 20 to 30 percent higher than conventional foods (Czarnezki, 2011; Harrison, 2008). It is not surprising then that interest in the USDA organic certification has grown as the industry has become an economic power-house.

Organic has occupied a powerful position in the non-conventional agrifood market, in part because it is the only government-backed food eco-label in the United States. Studies indicate that eco-labeling schemes that are government-regulated are perceived more positively by consumers. One reason is that consumers believe that government agencies are less susceptible to external pressure and therefore, less likely to compromise on standards (Castka & Corbett, 2016, pp. 310 – 314). Furthermore, implicit in the term is the belief that amongst other things, the USDA organic seal represents elevated welfare standards for animals raised for food – standards that include access to the outdoors and ample space to move about. In a 2019 survey by the Organic Trade Association, respondents identified the following traits with organic: clean, transparent, fresh, sustainable, environmentally friendly, animal humane, high quality, and social activism (“Organic Industry Survey”, 2019). In an article for The Counter, a nonprofit and nonpartisan newsroom, Lynne Curry described this “halo effect” of the organic label:

Organic...is imbued with a holistic conception of agricultural systems that support biodiversity, regenerate the soil, and promote animal health and wellbeing. As a pushback against industrialization and the impacts of confined animal feeding operations (CAFOs) on water, land, air, and animals, organic is bundled into the ideals of environmentalism. (2017)

Much of these assumptions come from the organic standards themselves, as well as the manner in which organic products are packaged and marketed to consumers.

Today, organic eggs make up approximately 12 percent of supermarket egg expenditures

(Whoriskey, 2017). Consumers are not entirely incorrect in their belief that organic eggs come from production systems with enhanced welfare standards (“Organic Industry Survey”, 2019). The standards specifically prohibit “continuous total confinement of any animal indoors,” and require that all animals have “year-round access” to the outdoors and the ability to engage in natural behaviors (“Livestock Living Conditions”, n.d.). Furthermore, as discussed in chapter 2, organic egg packaging often perpetuates this perception of organic production systems. However, unbeknownst to a majority of consumers is the fact that the organic egg industry is propped up by a set of standards which lack unified definitions for key terms such as ‘outdoor access’, ‘fresh air’, and ‘sunlight’. This has resulted in standards that are interpreted and implemented in varying ways by producers. Consequently, enhanced animal welfare may look quite different from one producer to the next. In fact, according to a USDA estimate, half of all organic eggs that are sold today come from hens living in continuous total confinement (Curry, 2017). As Mark Kastel, director of The Cornucopia Institute, describes: “there are two organic labels. They both have that green logo. One is really organic and one is faux organic” (Curry, 2017).

3.2.1 The Country Hen and the Poultry Porch System

In 2000, the final rule establishing the USDA’s National Organic Program (NOP) was published; however, it soon became apparent that the standards failed to provide adequate guidance on how organic livestock should be raised and handled. Stakeholders within the organic community – producers and handlers, certifiers, consumers, and animal welfare organizations – wanted clarification on many of the standards, including outdoor access for non-ruminants. The advisory body of the NOP, the National Organic Standards Board (NOSB), began meeting and soliciting input from the public on various animal welfare issues. In 2001, the NOSB recommended that the NOP issue new rules to clarify access to pasture for ruminants. In May

2002, the NOSB made similar recommendations to the NOP regarding outdoor access for poultry, including egg-laying hens (“Animal Welfare in the National Organic Program”, n.d.). The recommendation stated that organic poultry must have access to the outdoors, that the outdoor area they do have access to must provide open air and direct sunlight, and that “bare surfaces other than soil (e.g. metal, concrete, wood) do not meet the intent of the National Organic Standards” (NOSB, 2002).

In July 2002, just two months after the NOSB made their recommendation regarding outdoor access for poultry, The Country Hen, a Massachusetts egg producer, was denied organic certification because the farm failed to meet the outdoor access requirements. In an article published in *The Organic Report* in 2019, Bob Beauregard, General Manager, and Sheila Taylor, Branch Controller, recalled their concern upon learning of the NOP’s proposal in 2000 to require outdoor access for all organic livestock (this was prior to establishing the final set of standards). The farm’s management team began investigating ways to comply with the potential forthcoming requirement while preventing the hens from mingling with the wild birds that migrate through the area. They explained:

We ran some experiments with allowing the hens to have access to the soil at various densities and each experiment raised additional concerns and questions regarding how to follow the proposed rule and still protect the health and well-being of the hens (OTA, 2019).

The team eventually developed the idea of attached porches as a way to satisfy the outdoor access requirement. The porches were enclosed on three sides with bird netting and contained a clear roof made of fiberglass which allowed sunshine to stream inside. This solution was not accepted by the organic certifier. When the producer appealed to the USDA’s Agricultural Marketing Services (AMS), which oversees the NOP, the decision was overturned – without consulting the NOSB – and the certifier was directed to approve The Country Hen for organic

certification.

This decision by the USDA, and actions on the part of The Country Hen, represent a pivotal moment in the organic egg industry for numerous reasons. The decision was made by the USDA in the midst of the NOSB actively seeking a ruling by the NOP that would clarify outdoor access requirements for poultry. In fact, the recommendation was published two months prior to The Country Hen's denial of organic certification and five months prior to the USDA's decision to overturn the certifier's verdict. While not yet an official ruling, the intent of the NOSB in clarifying that poultry must at a minimum have access to bare soil, and not the concrete or wooden flooring offered by a poultry porch, is clear. The decision also set a precedent for other egg producers, particularly large-scale conventional egg producers, to enter into the organic market and profit from organic egg premiums through the use of porch systems rather than true outdoor access. Consequently, this decision also cleaved the industry in two, pitting the majority of organic egg producers – authentic organic egg producers – who believe outdoor access involves the physical outdoors, with hens on soil and/or pasture, against a small but mighty group of industrial egg producers (and their lobbyists) who today, are dominating egg sales and gaining market advantage. This would not be the last time that political and economic factors are prioritized over the founding spirit of the organic label, the programs standards, and even consumer understanding of what the label represents.

3.2.2 The NOSB Strives for Stronger Organic Standards

Since 2002, the NOSB has continued to push for strong animal welfare standards. While some efforts have been successful – for example, a rule was published in 2010 specifying outdoor pasture requirements for organic ruminant livestock – efforts to establish similar guidelines for poultry and other non-ruminants have continued to be met with resistance (for a timeline see

Animal Welfare Institute, 2017). In 2009, the NOSB submitted a recommendation to the NOP, which amongst other things, required daily access to the outdoors for poultry (NOSB, 2009). The recommendation, however, did not specifically state that poultry porches were prohibited, and in March 2011, the NOP determined that the guidance did not offer additional clarification regarding outdoor access requirements. In an official notice published two months later, the NOP withdrew the proposed recommendation, stating that the guidance “did not serve to clarify the requirements for outside access for poultry.” The NOP’s decision was based on public feedback expressing concern about the clarity and impact of the NOSB’s recommendation. One consumer organization found the proposed guidance to be “vague, unenforceable, and not strict enough to ensure adequate year-round outside access for poultry.” The NOP’s decision also took into consideration potential impacts of disrupting the status quo for producers utilizing poultry porches, many of which expressed that they had made “substantial investments in facilities based on this understanding of the [2002] regulations,” and the USDA’s approval of the use of poultry porches (“Comments of Rose Acre Farms”, 2016, p. 2).

Coincidentally that same year, the USDA’s AMS initiated an economic impact analysis to determine the impacts of a new set of recommendations proposed by the NOSB. The 2011 NOSB recommendations spoke to the heart of the outdoor access dilemma for organic poultry, with outdoor access defined as “contact with soil when seasonally appropriate and the sky overhead and without a solid roof or walls” (NOSB, 2011). Amongst other things, the recommendation also required a minimum of 2 sq. ft. of indoor space and no less than 2 sq. ft. of outdoor space per laying hen, room to engage in natural behaviors, and explicitly stated that “enclosed spaces that have solid roofs overhead do not meet the definition of outdoor access and cannot be included in the space calculation of outdoor access” (NOSB, 2011). Rather than rule on and codify the

guidelines proposed by the NOSB into enforceable government regulation, the USDA commissioned a study to “provide independent economic analysis of possible regulatory changes for the living conditions of organic poultry” (Vukina et al., 2012, p. 2).

The objective of the study was to compare the impacts of existing regulations (option 1), independent animal welfare standards (option 2), and legislating the 2011 NOSB recommendations (option 3). The results of the study would inform the NOP’s decision on whether or not to make changes to existing regulation, adopt standards that are similar or a slightly modified version of existing standards, or adopt the standards recommended by the NOSB. For this analysis, organic egg producers were classified as follows: small producers with fewer than 16 thousand laying hens, midsize producers with between 16 thousand and 100 thousand laying hens, and large producers with more than 100 thousand laying hens. According to the report, small producers represent 74 percent of organic egg producers, while midsize and large producers represent 25 percent and 1 percent of producers respectively. Additionally, small producers account for approximately 30 percent of organic egg production, while 54 percent of organic eggs are produced by midsize producers, and 16 percent by large producers (Vukina et al., 2012). The analysis concluded that the overall impact of proposed changes under option 2 would be negligible because most producers are currently operating under conditions that are similar to the proposed standards and only minor changes may be required to comply with the new standards. Under this option, the indoor environment would need to provide enrichments such as perches, scratch areas and dust baths. Additionally, this option specified indoor and outdoor space allowances based on housing type. Although not listed as “poultry porches,” this option would allow such porch systems based on the following statements: “outdoor access must be available...and provide direct sunlight although solid roofs are allowed,” and “the surface of the run can be concrete but must have a well-

maintained substrate of sawdust and wood chips, and scratch areas and dust baths in soil or suitable substrate must be available” (Vukina et al., 2012, p. 4).

Under option 3 – the 2011 NOSB recommendations – the study also concluded that the impact to small (and some midsize) organic egg producers would be negligible since they also operate under conditions that are similar to the standards proposed in this option. While the cost of complying with these new standards would impact some midsize producers (a 6.7 percent increase to direct costs), the authors focused a great deal on large organic egg producers. They concluded that impact to large producers would be substantial, increasing their direct costs by 96 percent from the baseline. Another way to look at this is that for large producers, the fixed cost per laying hen would increase under this option from \$40 per bird to \$295 (Vukina et al., 2012). Option 3 would require a 12.5 percent reduction in the number of laying hens for midsize producers, and an 86.5 percent reduction for large organic producers. Furthermore, the authors stated that “large organic eggs producers, if faced with the Option 3 regulation, [would] likely exit the organic industry and become conventional egg producers” (Vukina et al., 2012, pp. II-3).

The study also concluded however, that the same producers that would be impacted the greatest by the implementation of Option 3 would also gain the most monetarily in the marketplace. It was determined that the increase in cost of production would lead to an increase in organic egg prices to reflect enhanced animal welfare standards. Currently, the price of eggs supplied by small producers with heightened animal welfare standards reflect the higher cost of production as well as consumers’ willingness to pay for these guarantees. This is not the case for the handful of midsize producers and the majority of large organic egg producers. According to the authors, “the economics literature shows that consumers value improvements in animal welfare and the hypothetical willingness to pay for increased animal space could be quite substantial” (Vukina et

al., 2012, p. 5). As discussed in chapter 2, numerous studies support the notion that consumers are willing to pay more when they know animal welfare is prioritized. Currently, these price differences place small producers and other authentic organic producers whose standards align closely with Option 3 at a disadvantage. Consumers likely do not know the vast difference in production systems from one organic producer to the next and may view the reflective price difference as a competitive pricing strategy or simply one brand's ability to meet demand in a more cost-effective way. If consumers are unaware of the grave difference between two brands of organic eggs that are priced \$2 apart from one another for example, it is very likely they will base their decision on price without realizing the key differences in production systems.

Upon conclusion of the economic impact analysis, the NOP rejected the NOSB's animal welfare recommendations with the explanation that "given other urgent priorities at this time, we do not anticipate addressing the NOSB proposals on animal welfare in the near future" (Tomaselli & Bunin, 2014, p. 20). In 2014, the Center for Food Safety (CFS), a nonprofit organization concerned with protecting human and environmental health, commissioned Dr. John E. Ikerd, economist and Professor Emeritus of Agricultural Economics at the University of Missouri, to conduct an evaluation of the USDA's economic impact analysis. Using Ikerd's findings, Paige M. Tomaselli, Sr. Staff Attorney and Dr. Lisa J. Bunin, Organic Policy Director with CFS, co-authored and published a white paper assessing the NOP's decision, stating that the study was based on "faulty assumptions and unfounded conclusions," and was therefore "inherently inadequate to provide a basis for rejecting the NOSB recommendation" (Tomaselli & Bunin, 2014, pp. 2-3). Amongst the key objections was the claim that implementing Option 3 would lead to "substantial" impacts to large organic egg producers (i.e. an increase in cost per bird from \$40 to \$295). This considerable impact was attributed to the fact that large producers reported that they

would be forced to reduce their flock sizes (from 100 thousand laying hens to 13,500) in order to meet the new space requirements proposed in option 3, as opposed to implementing other options such as expanding their current facilities or building new ones. CFS questioned not only the accuracy of the claim by the authors and the forthrightness of large producers interviewed for the study, but also the compatibility of animal welfare and large-scale organic egg production:

If small to mid-sized egg producers can meet NOSB's proposed animal welfare requirements at one-tenth the cost of large producers, then either (1) the analysis is incorrect and large producers can indeed make improvements to their production facilities at a lower fixed cost per bird; (2) large egg production facilities are not compatible with humane production of organic eggs; (3) large egg producers are not operating efficiently in the first place; or (4) large egg producers are overstating the potential impacts in an effort to block regulatory change. (Tomaselli & Bunin, 2014, p. 13)

In response to large producers' reported inability to modify their facilities rather than depopulate them by reducing flock sizes, Dr. Ikerd stated:

If the facilities of large egg producers are so different from facilities of small and midsized producers as to preclude modification, it might well be best for the future of organic markets if the large producers switched to conventional egg production. (Tomaselli & Bunin, 2014, p. 23)

Furthermore, CFS also called attention to the study's lack of discussion about the inherent benefits of implementing Option 3, particularly to small and mid-sized producers. The authors of the whitepaper believed that these producers would see "notable revenue increases," even if large organic producers exited the industry as predicted and were replaced by new producers entering the industry (Tomaselli & Bunin, 2014, p. 13). They emphasized that the USDA's decision to not implement the NOSB-recommended animal welfare regulations has allowed "a few large egg producers – the one percent – to hold the organic poultry industry – the ninety-nine percent – hostage" (Tomaselli & Bunin, 2014, p. 11).

3.2.3 The New Organic Rule

In the nearly two decades since the NOSB first recommended clarifications to the animal

welfare standards, the advisory panel has persisted in its effort to regulate critical animal welfare issues. Following the NOP's decision to not rule on the NOSB's 2011 animal welfare recommendations, stakeholders mounted pressure from various fronts, with the Center for Food Safety's (CFS) white paper as one example (Animal Welfare Institute, 2017). In 2014, the Organic Egg Farms of America published the results of a survey which found, as the USDA's economic impact analysis had, that a majority of organic egg producers (95 percent) already provide their hens with meaningful outdoor access, including contact with soil. Whereas only 5 percent use poultry porch systems ("Animal Welfare in the National Organic Program", n.d.; Animal Welfare Institute, 2017). Finally, in April 2016, the NOP proposed the Organic Livestock and Poultry Practices (OLPP) rule, crediting the NOSB's 2011 recommendations and years of public comment and stakeholder feedback as the basis for the proposed rule. The NOP's decision was also influenced by a 2010 report from the USDA Office of the Inspector General which found inconsistencies in the application of outdoor access requirements for poultry (McEvoy, 2017). In developing the final rule, the NOP also collaborated with multiple agencies for regulatory input. These agencies include the USDA Food Safety and Inspection Service (FSIS), USDA Natural Resources Conservation Service (NRCS), USDA Animal Plant Health Inspection Service (APHIS), the Food and Drug Administration (FDA), and the Environmental Protection Agency (EPA). During the 90-day comment period, the NOP received nearly 6,700 written comments in response to the rule and petitions from animal welfare organizations, with over 102 thousand signatures expressing their support for the proposed rule.

Alternately, the proposed rule was opposed by three of the largest egg producers, Rose Acre Farms, a conventional egg producer which currently does not appear to be part of the organic egg industry, Herbruck's Poultry Ranch, and Cal-Maine Foods – both of which produce a variety

of eggs, including organic eggs. The producers submitted joint comments to the NOP expressing “major concerns” with the proposed rule and their impacts to organic egg production (“Comments of Rose Acre Farms”, 2016, p. 1). They described the rule as “arbitrary,” “capricious,” and believed the rule to be “a thinly veiled attempt to promote small farms and exclude larger farms...from the production of organic eggs” (“Comments of Rose Acre Farms”, 2016, p. 1). Reasons cited for this claim include, (1) that the proposed rule is based on opinion and public perception, and (2) that the proposed requirements conflict with animal welfare practices proven by science. The producers requested that the NOP reconsider and revise the rule based on “sound animal welfare practices” and a “sound economic analysis.” Interestingly, the producers described the USDA’s economic impact analysis – which focused primarily on hardships to large organic egg producers like themselves, and informed the decision to not rule on the 2011 NOSB recommendations – as “dated” and “severely lacking in substance” (“Comments of Rose Acre Farms”, 2016, p. 2). Additionally, they expressed concerns regarding the validity of the consumer perception surveys referenced in the proposed rule, calling them “unsupported opinion,” and suggested that the surveys were made up of “narrow, biased, closed-ended questions” (“Comments of Rose Acre Farms”, 2016, p. 6). Furthermore, they suggested that the USDA should develop an education plan to inform consumers of the correct meaning behind the organic label rather than “instituting processes upon producers because one or two biased...surveys indicate a particular understanding by a small group of consumers” (“Comments of Rose Acre Farms”, 2016, p. 8).

The assertion that the USDA should educate consumers on the correct meaning of organic is contradictory when these producers are not necessarily transparent and forthcoming about the details of egg production at their facilities. Furthermore, it implies that the source of consumer confusion is limited to actions (or inactions) on the part of the USDA and not the producers

themselves. For example, Herbruck's and Cal-Maine, both franchisees and distributors (Cal-Maine is also a marketer) for Egg-Land's Best, Inc., produce and sell organic eggs under the Egg-Land's Best brand, which is found at Kroger supermarkets within the study area. The egg carton does not contain information or images notifying consumers that the organic eggs come from hens raised in barns with enclosed poultry porches that serve as 'the outdoors'. On the contrary, a paragraph on the interior of the egg carton states that the hens are provided with "sunlight, shade, shelter, an exercise area, fresh air, and are protected from predators" (Eggland's Best, n.d.). Providing hens with access to sunlight, shade, and protection from predators would indicate that the hens are able to access a true outdoor area that is not covered by a roof and which is reachable by direct sunlight. Furthermore, it would also indicate that the hens are provided with the opportunity to roam around in the sunlight and to access shaded areas as needed. This example, like the many others discussed in chapter 2, indicates that a great deal of consumer confusion around the meaning behind organic production stems from the information provided on egg packaging by producers, purveyors, and those responsible for branding and marketing shell eggs. Thus, while the USDA has failed to create transparency by requiring producers to clearly indicate if they use poultry porch systems, or by creating two distinct organic seals to represent the different production systems, many producers have also contributed to the widespread confusion by placing vague and misleading information on their egg packages. In other words, a successful consumer education plan initiated by the USDA would also require that producers do their part to ensure that the nuances of their specific organic production systems are communicated clearly and truthfully to consumers.

The producers went on to state that since 2001, organic producers have had assurances that poultry porches were an acceptable way of meeting the outdoor access requirements, thus "many poultry houses were constructed with porches and other attachments based on that understanding"

(“Comments of Rose Acre Farms”, 2016, p. 2). They indicated that changing their facilities again to meet new requirements would not be feasible, nor do they believe that the USDA has “statutory authority to impose animal welfare requirements” through the NOP (“Comments of Rose Acre Farms”, 2016, p. 1).

3.2.4 A Near-Win for Hen Welfare

In January 2017, the NOP finalized the Organic Livestock and Poultry Practices (OLPP) rule. Set to go into effect on March 20th, 2017, the rule allowed an implementation period of five years from the effective date for outdoor access requirements, and one year for all other provisions pertaining to laying hens. In a live webinar on January 18, 2017, Miles McEvoy, Deputy Administrator for the NOP, announced that the rule “will serve to assure consumers that organically produced livestock products meet a consistent standard, by resolving the current ambiguity about outdoor access for poultry.” Pertinent to this study is the definition of the controversial term, ‘outdoors’. The final rule re-emphasized the original provision that all livestock must be provided with access to the outdoors. ‘Outdoors’ was defined as “any area outside of an enclosed building or enclosed structure,” including non-enclosed areas covered by a roof (McEvoy, 2017). Meaning that while enclosed poultry porches no longer met the requirements for outdoor access, a modified poultry porch allowing birds to move freely between the covered porch and other soil- and vegetative-covered areas was permitted. In such a setup, at least 50 percent of the outdoor area was required include soil covered in vegetation. It is important to note that the proposed rule excluded any form of covered porches – enclosed or not – as part of allowable outdoor space. In fact, the joint comments submitted by Herbruck’s, Rose Acre Farm, and Cal-Maine Foods addressed this constraint. This concession in the final version of the rule indicates that the NOP took into consideration concerns expressed during the comment period, and that

compromises were made to more easily enable producers utilizing poultry porches to update their facilities in compliance with the new requirements.

The rule also set specific indoor and outdoor space requirements per bird and required enrichments for indoor environments. Producers were required to provide 2 sq. ft. of outdoor space per ISA Brown – the most common breed of chicken used in egg production – or a maximum density of 2.25 lbs. of laying hen (any breed) per 1 sq. ft. of space. Indoor space requirements ranged from 1 to 2 sq. ft. per laying hen depending on housing type, allowing the birds room to move around freely, stretch their wings, stand, and engage in natural behaviors. Indoor enrichments such as perches, areas for scratching and dust bathing were also required.

By clarifying outdoor access requirements, the rule was set to close a loophole in the standards that for more than a decade, has created unfair competition for authentic organic producers who have upheld higher welfare standards by providing meaningful outdoor access for laying hens. Furthermore, it established animal protections that consumers believe are already requirements of the organic program, helping “align the program with consumer expectations” (“Animal Welfare in the National Organic Program”, n.d., p. 5). With the final OLPP rule published in the Federal Register on January 18, 2017, and slated to go into effect that coming March, it appeared that a nearly decade and a half long rift within the organic industry would finally be mended. However, this momentous achievement coincided with the inauguration of President Donald Trump and the immediate issuance of a memorandum requesting a regulatory freeze of new and pending regulations, leading to a 60-day postponement of the effective date “for the purpose of reviewing questions of fact, law, and policy” (Priebus, 2017). The NOSB issued a unanimous resolution reiterating the process by which they arrived at the final rule and urged the USDA to allow the OLPP rule to go into effect by May 2017 (“Animal Welfare in the National

Organic Program”, n.d., p. 17). Implementation of the final rule was delayed an additional six months to November 2017. In a move that further undermined steps taken by the NOSB and NOP to develop and finalize the OLPP rule, the USDA published a notice of proposed rulemaking and solicited public input on four possible actions for the final rule. ‘Option 1: Implement’ would allow the OLPP final rule to take effect in November, 2017; ‘Option 2: Suspend’ would suspend the OLPP final rule indefinitely; ‘Option 3: Delay’ would further delay the effective date of the OLPP final rule beyond November, 2017; and ‘Option 4: Withdraw’ would withdraw the rule altogether (“National Organic Program”, 2017). Amongst widespread support in favor of implementing the final rule, the USDA chose to adopt Option 3 and delayed the decision until May 2018 “so that important questions regarding USDA’s statutory authority to promulgate the OLPP rule and the likely costs and benefits of that rule, [could] be more fully assessed...” (“National Organic Program”, 2017, p. 3).

Industry stakeholders once again assembled along the dividing line to stand in support or opposition of the final rule and its impacts to the organic standards. Melody Meyer, Vice President of Corporate Social Responsibility, Policy, and Industry for United Natural Foods, described this time in a blog post as a “portentous moment for organic,” and called on readers to pay attention as “the very relevance of the organic seal is at stake” (2017). Kim Dietz, Senior Manager of Compliance and Industry Relations for Smucker Natural Foods, urged the USDA to continue its rulemaking or risk losing the trust of the organic consumer:

Erosion of consumer’s confidence that organic regulations match their production values will inevitably result in loss of organic sales and will jeopardize the continued success of organic in the marketplace. (2016)

Animal scientists and veterinarians also provided input in support of the rule, contradicting assertions made by the rule’s opponents that providing laying hens with outdoor access increases

mortality rates and the risk of avian influenza (Highly Pathogenic Avian Influenza, 2015; USDA, 2014a; USDA, 2014b; “Animal Welfare in the National Organic Program”, n.d.). While other organizations like the American Farm Bureau, an agriculture lobbying group, held fast to their opposition of the rule, expressing concern over the implications of the new standards to their members:

Many farmers and ranchers [have] already invested in the organic system and made some substantial changes to how they did things just to transition to organics, and this would be [an] additional hoop to jump through, and that might not be possible for all organic producers. (Grant, 2018)

The Organic Trade Association (OTA), a business association representing 9,500 organic businesses in the United States, filed suit against the USDA in September, 2017, for violating the Organic Foods Production Act and unlawfully delaying the effective date of the OLPP rule. According to the suit, the standards in the final rule were developed through a transparent and inclusive process established by Congress and should be upheld by the USDA (“Lawsuit Against USDA”, n.d.). In a press release announcing OTA’s lawsuit, Laura Batcha, Executive Director and CEO of OTA, stated:

We are standing up on behalf of the entire organic sector to protect organic integrity, advance animal welfare, and demand the government keep up with the industry and the consumer in setting organic standards.

Batcha went on to question the government’s decision to obstruct regulation that was developed using proper processes:

The government’s failure to move ahead with this fully-vetted regulation calls into question the entire process by which organic regulations are set – a process that Congress created, the industry has worked within, and consumers trust. (“Farmers”, 2017)

In March 2018, the USDA announced its decision to withdraw the OLPP final rule due to “significant policy and legal issues” that were identified after the final rule was published in January, 2017 (USDA, 2018). Additionally, the USDA also determined that the rule exceeds the

department's legal authority, "and that the changes to the existing organic regulations could have a negative effect on voluntary participation in the National Organic Program, including real costs for producers and consumers" (USDA, 2018). These findings were based on a March 2018 Regulatory Impact Analysis (RIA), the purpose of which was to review the OLPP rule and the associated costs and benefits. According to the RIA, mathematical errors found in several calculations caused the benefits of the final rule to be overstated when compared to the costs of changes to producers. As such, the USDA found little economic justification for the OLPP rule. There is strong indication that like the previous economic impact analysis, the RIA disregarded potential benefits to the majority of organic producers in favor of the largest producers. Additionally, the USDA appeared to also disregard impacts to consumers due to ambiguity in the standards. While the 2018 RIA did find "a wide variance" in organic egg production practices, the agency determined that this finding did not represent a significant market failure. According to the USDA "as more consumers become aware of this disparity, they will either seek specific brands of organic eggs or seek animal welfare labels in addition to the USDA organic seal" (USDA, 2018).

In October 2018, just months after the USDA announced withdrawal of the final rule, the U.S. District Court for the District of Columbia decided to hear OTA's case against the USDA. In February 2019, the court accepted OTA's argument that the USDA's failure to implement the OLPP final rule has harmed the organic sector, and determined that OTA has legal standing to dispute the USDA's decision to withdraw the rule. The lawsuit continues to advance in the court. In March 2020, the USDA informed the court of a series of economic modeling errors in the 2018 RIA – the analysis that informed the agency's decision to withdraw the OLPP rule. Due to the history of delays and setbacks in dealing with the organic program – what the court described as

an “administrative process at its never-ending worst” – the USDA was given a 180-day deadline to correct the errors and publish the updated cost-benefit analysis (*Organic Trade Association v. United States Department of Agriculture et al.*, 2020).

As the organic community awaits the outcome of the OTA’s lawsuit, it is impossible to not question how the OLPP rule, nearly two decades in the making and with such widespread support, has faced such numerous delays and setbacks. The following section examines these challenges through the theoretical lens of the spatial fix to explore whether contemporary green consumerism lends itself to true shifts in production, or if the political economy of capitalism ultimately prevents this from occurring.

3.3 Capitalism and the Spatial Fix

The notion of the spatial fix rose out of Harvey’s efforts to demonstrate the spatial and temporal dimensions of capitalism in Karl Marx’s theory of accumulation (Harvey, 1975; Harvey, 2001a). In his works, Marx detailed the contradictory nature of the capitalist system and the continual crises that erupt from these inconsistencies. The tendency to overaccumulate was identified as an inherent part of the capitalist accumulation process. Harvey’s reconstruction of Marx’s theory of accumulation reveals that (1) crises are prevalent within capitalism and manifest according to the conditions of circulation and production, and (2) the different manifestations of the capitalist crisis, even in instances of overproduction or underconsumption, can ultimately be traced back to a tendency to overaccumulate (Harvey, 1975).

Periodic crises are resolved – and the capitalist system sustained – by utilizing different forms of geographic expansion and restructuring to seek out new spaces and create conditions for further accumulation (Harvey, 1975). According to Harvey, this tactic – what he eventually called the ‘spatial fix’ – shifts “the accumulation process onto a new and higher plane” (Harvey, 1975,

p. 10). It is, however, an imagined and fleeting solution to a “chronic or pervasive problem”. One that Harvey compares to the ‘fix’ sought after by a drug addict:

Once the ‘fix’ is found or achieved then the problem is resolved and the desire evaporates. But, as in the case of the drug addict, it is implied that the resolution is temporary rather than permanent. (2001b, p. 24)

Harvey first used the term ‘spatial fix’ to describe this ‘new and higher plane’ in an essay titled *The Spatial Fix: Hegel, Von Thünen and Marx* (1981), where he argued that capitalism has historically sought out a spatial fix to overcome the cyclical crisis of overaccumulation inherent within capitalist economies. He has exemplified the repeated pattern of the spatial fix and its stabilizing effects on capitalism in his examination of the relationship between Hegel, Von Thünen, and Marx’s views on imperialism, frontier wage, and colonialism respectively (Harvey, 1981). Similarly, he has examined the contemporary form of globalization as a strategic pursuit of the spatial fix, describing it as “yet another round in the capitalist production and reconstruction of space” (Harvey, 2001b, p. 24). Harvey’s various elaborations of the concept (1981, 2001a, 2001b) have culminated in the knowledge that the very survival of capitalism depends on geographic expansion and a perpetual cycle of seeking out spatial fixes to resolve its internal contradictions (Harvey, 2001b).

3.3.1 Green Consumerism as a Spatial Fix

While Harvey’s theorizations of the concept deal with expansion into and restructuring of *physical* space to resolve capitalist crises, recent studies have extended this theory beyond this realm. Greene and Joseph (2015) apply this concept to digital spaces (i.e. spaces formed by technologies like the Internet), arguing that such spaces “can act as outlets for the same sort of fixes we have seen in the past while providing new opportunities for exploitation and accumulation” (p. 224). Reisman (2019) examines the rise of the almond to superfood status,

locating a new arena for the spatial fix in the continual reconstruction of meanings attached to commodities. She asserts: “superfood status for the almond industry is a spatial fix, an ever-incomplete process of prolonging agrarian capitalism despite repeated crises of overproduction” (Reisman, 2019, p.12). Similarly, this study applies the theory of the spatial fix to the *abstract* space occupied by the green market for non-conventional eggs through a deeper examination of hen welfare standards in the organic egg industry. In the above recounting of efforts to add clarity and more stringent requirements to existing hen welfare standards, it is evident that green consumerism is not unfolding as purported. The organic egg industry is an especially noteworthy example; if there ever was a non-conventional market with the potential to be impacted by consumers’ consumption practices, it would be this one. Consumer perceptions and expectations of organically produced eggs align with the key issues taken up by stakeholders both within and peripheral to the industry (e.g. animal welfare organizations). These stakeholders are striving to maintain the original spirit of the organic label and to enhance the welfare of animals raised for food. Furthermore, as previously discussed, the organic label is not only government-regulated, but includes an advisory board responsible for making recommendations on pertinent issues, such as hen welfare standards. The conditions appear suitable for the organic egg industry to adjust and respond according to consumer demand, as green consumerism calls for. However, this has not been the case and it appears that the levers of change have not been responsive to demands from consumers. This begs the question, why?

To answer this, we must consider shifting consumer demand in the egg industry and the implications to conventional egg production. For more than two decades, consumer concern for animal welfare in food production has experienced strong, persistent growth (see sections 2.4 and 2.5 in chapter 2). Furthermore, the proliferation of eco-labeling schemes – whether meaningful or

not – is also indicative of a consumer base that is receptive to and actively seeking out alternate choices to conventional production methods. What this means is that a crisis of overaccumulation has been growing in the conventional egg industry for some time, as diminishing demand has resulted in chronic overproduction (or underconsumption) (see Sterk, 2019 for the effects of the cage-free movement to conventional egg production). Thus, expansion into the non-conventional egg market is tantamount to capital’s quest for a new space in which to invest and create new conditions for further accumulation – a maneuver that serves as a spatial fix for the conventional egg industry. This expansion is facilitated by green consumerism, which creates new, green spaces of accumulation that conventional producers can expand into by utilizing eco-labeling schemes. This includes expansion into the organic egg industry as a way for large-scale conventional producers to seek out a new space for accumulation and to benefit from the growing consumer support for organic egg production. For a spatial fix to occur, capital fixity – a key barrier to the movement of capital from a space of crisis to one that is produced for fresh accumulation – must be overcome.

3.3.2 Overcoming Capital Fixity through Green Consumerism

A central contradiction of capitalism is that it must construct an environment in which to embed capital in order to function (e.g. facilities and other infrastructure), while simultaneously retaining a level of mobility and expansionary capability. The fixity of this capital ultimately becomes a barrier that it must overcome in order to expand into new spaces of accumulation (Harvey, 1982; Harvey, 2001b; Harvey, 2001a). This contradiction results in “a tension within the geography of accumulation between fixity and motion, between the rising power to overcome space and the immobile spatial structures required for such a purpose” (Harvey, 2001a). The use of poultry porches instead of meaningful access to the outdoors in organic egg production is an apt

case in point. The implications of the USDA's ruling in favor of the use of porch systems is not only a weakening of the current organic standards, but of the requirements to become a certified organic egg producer. The decision to allow producers to distort the meaning of 'outdoors' has introduced an element of mobility into a circumstance that would have otherwise required hefty investments for conventional producers to transition into organic production. To remove the barrier of capital fixity, a major sticking point within the organic production system – meaningful outdoor access – has been redefined to fit within the existing structures and processes associated with conventional egg production. Furthermore, organic producers who utilize poultry porch systems are not required to disclose this information to consumers, nor are the two organic production systems differentiated by their own organic seals. In effect, these producers have been provided the opportunity to expand into the organic egg market with ease, to continue their cost-effective, industrial-scale egg production methods under the halo of the organic label, and to benefit from its price premium and its consumer following.

The findings in part I of the case study (chapter 2) also demonstrate how the limitations and contradictions within green consumerism assist in resolving the paradox of capital fixity by making it possible for capital to overcome space and spatial structures without the substantial investments and changes otherwise required. As previously mentioned, eco-labels represent the various, oftentimes nebulous spaces that capital can be fixed to in order to manage the crisis of overaccumulation in the conventional egg industry. However, eco-labeling schemes also play another important role. As discussed in chapter 2, the plethora of egg eco-labels and other information on egg packaging fail to adequately inform consumers of true conditions of production. One reason is that the information is oftentimes used as a marketing tactic to greenwash conventional eggs (Douglass, 2015; Nosowitz, 2017; Kelto, 2014). Another is that the

information helps engage the imaginations of consumers to frame a specific perception of the production system (e.g. romanticizing the farm) that may or may not be accurate (see discussion in section 2.6.5 of chapter 2). Vague, insignificant, unregulated and unverified eco-label claims represent product distinctions that are oftentimes fictitious and/or which require negligible changes, or no changes, to conditions of production. Such false or greenwashed product distinctions are often intensified by the use of additional statements and images placed on egg packaging.

Thus, while green consumerism produces new spaces of accumulation through eco-labeling schemes, the nebulous nature of these eco-labels allows capital to overcome its fixedness through marketed (and perceived) differences in conditions of production. This enables conventional producers to expand into these new market spaces and unfairly compete with producers who provide significant (and often verified) improvements to hen welfare standards in their production systems. That the use of eco-labels and accompanying information on egg packaging is highly unregulated serves to provide the ideal setting for consumers to be misled into paying a premium on eggs that may not align with the hen welfare standards they are intent on supporting. Figure 3.1 shows the different price points for a number of egg eco-labels compared to conventional eggs. The examples included in this chart are not third-party certified, meaning that aside from the organic claim, all other claims are either unverified or are minimally verified during the voluntary egg-grading inspection process. That being said, a few brands listed do comply with their own in-house standards in terms of amount and quality of space provided to the hens. For example, the Jeremiah Cunningham's World's Best Eggs brand does provide meaningful outdoor access to the organic pasture-raised hens. I had the opportunity to visit one of the farms in person and to observe the production system first-hand. However, the reality of this combination

of eco-labels – in the absence of a third-party label – is that without a clear definition, standards, and a verification process in place, ‘pasture-raised’ may be interpreted and implemented differently from one producer to the next. Meaning that these eco-labels can be used by conventional producers as an avenue for absorbing their surplus production by appearing to align with consumers’ understanding and perceptions of the production system without necessarily requiring substantial changes in conditions of production. As Figure 3.1 demonstrates, there are a number of market spaces, with lucrative price points attached to them, that conventional producers can expand into in order to resolve the crisis of overaccumulation in the conventional egg industry.



Figure 3.1. Egg eco-label comparison by cost (price of eggs from Kroger and Whole Foods Market supermarkets within the study area).

3.4 Conclusion

Although the spatial fix described in this study is different from Harvey’s theorizations of the concept, the examples discussed in this chapter demonstrate the novel ways in which capitalism

seeks to overcome its own limits (Green & Joseph, 2015). In his re-examination of *The Limits to Capital*, Schoenberger (2004) asserts that Harvey himself anticipated the potential for different expressions of the spatial fix:

Limits...did accurately foresee that there were many possible versions [of the spatial fix], each with its own contradictory and painful repercussions. Therein, I think, lies the importance of continually revisiting the idea to see how it is working out in different historical periods and historical circumstances. (p. 432)

As the above discussion reveals, overcoming the barrier of capital fixity through the production of meaningless market spaces or the distortion of the meaning of ‘outdoor access’ in the organic standards, is counterproductive to the purported motive of green consumerism. The findings in both parts of the case study, interpreted through the theoretical lens of the spatial fix, demonstrate how contemporary green consumerism is not designed to effect changes to production processes. Rather, its role is to cater to political-economic agendas by facilitating the spatial fix.

Another critical takeaway from this chapter is that ultimately, the organic egg market will become the space that needs to be abandoned in order to resolve another crisis of overaccumulation. When this happens, third-party eco-labeling schemes represent the next frontier of the spatial fix. Many of the organic egg producers who provide meaningful outdoor access to their hens, are already resorting to the use of multiple “add-on” eco-labeling schemes to distinguish their organic production systems from lesser ones (Dixon, 2018). For example, the Vital Farms brand of organic eggs displays the ‘pasture-raised’ and ‘Certified-Humane’ eco-labels alongside the USDA Certified Organic seal. This informs consumers that the production system for this brand and type of egg meets requirements set by both the organic and Certified Humane programs. Furthermore, the hens producing these eggs are guaranteed access to pasture – and not a poultry porch – as required and verified by the Certified Humane program. As these producers continue to set their production systems apart while simultaneously educating consumers, and as consumers

lose trust in stand-alone labels, including USDA Certified Organic, a new crisis of overaccumulation will begin to form. The impact of green consumerism on organic hen welfare standards serves as a cautionary tale of the potential challenges that lie ahead for third-party eco-labeling schemes. As conventional producers – and organic producers utilizing poultry porch systems – seek out new spaces of accumulation represented by third-party eco-labels, capital will again need to overcome its own fixity so that the crisis of overaccumulation in the conventional egg industry can once again be resolved through a spatial fix.

CHAPTER 4

CONCLUDING THOUGHTS

4.1 Summary of Conclusions

A fundamental notion of green consumerism is that individual action, in our role as consumers, is the catalyst for affecting change to production processes. This consumer-centered approach is purported to also address the broader social, environmental, and ethical concerns associated with unsustainable, modern-day consumption and production patterns. The purpose of this study was to critically examine the assertion that sustainable consumption and production (SCP) is achievable through green consumerism.

The case study in chapter 2 demonstrates that eco-labels are an inconsistent and oftentimes misleading source of information for the green consumer. In the case of non-conventional eggs, accompanying statements and images found on egg cartons further convolute the significance and meaning of the eco-label, and often fail to demystify conditions of production. As consumers are forced to bridge the information gap, the use of positive and ambiguous language coupled with images and other statements on egg cartons engage the imaginations of consumers when framing their perceptions of the product. The outcome is that consumers oftentimes make purchasing decisions based on faulty information about the product's sustainability attributes. These findings demonstrate that green consumerism as a means of achieving SCP is predisposed to fail, calling to question the purpose of green consumerism and the reasons why it has been resolutely endorsed as the pathway to SCP.

Chapter 3 was dedicated to further exploring this question through a deeper examination of the organic egg industry and the nearly two-decade long struggle to clarify hen welfare standards. The USDA certified organic label was selected for the second part of the case study

because upon initial review, the organic egg industry appears to have the makings of a green consumerism success story: government oversight, codified standards, independent certifying agents, an advisory board, consumer interest in animal welfare in food production, and consumer demand as indicated by continued growth in organic sales. Yet, as demonstrated, the combination of these factors has not produced the expected outcome. Rather, green consumerism has worked in reverse as the industry has undergone a series of government-aided impediments, including dilutions of its hen welfare standards, in order to accommodate the entry of large-scale conventional egg producers. This has resulted in inconsistencies within organic egg production, leaving authentic egg producers with no recourse other than to resort to add-on labeling in order to differentiate their production systems (“‘Fauxganic’ Takeover in Full Swing”, 2018). These outcomes indicate further collapses within the process of green consumerism that go beyond faulty eco-labeling schemes to reveal how this model is structured to ultimately cater to political-economic agendas.

4.2 Significance of the Study

In synthesizing these results, this study supports the notion that green capitalism is an “ideological victory” and an “extraordinary economic opportunity” for capitalism, “insofar as it opens up an entirely new domain for capital accumulation” (Smith, 2007, p. 26). Furthermore, this research demonstrates that green consumerism is less about achieving SCP and more about creating demand for new, ‘green’ spaces of accumulation. In the case of the egg industry, the new spaces opened up through green consumerism are the result of an urgent need for a spatial fix to resolve the crisis of overaccumulation within the conventional egg industry. The spatial fix is made all the more possible by distorting the meaning of key terms that define conditions of production for consumers, by manufacturing confusion through greenwashing, and by creating false product

distinctions through the use of vague, insignificant eco-labeling schemes; all of which aid in removing the barrier of capital fixity. This conception of green consumerism accounts for the current, nebulous state of a vast majority of eco-labeling schemes found on eggs, and the absence of stricter requirements around the use of eco-labels and accompanying statements and images on egg packaging. This stance on green consumerism also suggests that crises of overaccumulation will continue to erupt as consumers become more knowledgeable about production processes and more selective in their product choices. Furthermore, as industry stakeholders work to make production conditions more transparent by connecting consumers with the producers and hens that supply their eggs (e.g. Vital Farms' traceability tool), the recurrent need to seek out even greener spaces of accumulation will be all the more essential.

The findings in this study contribute to larger discussions around the limitations and contradictions within contemporary green consumerism by examining the alleged impacts and outcomes of this model in a two-part case study. Additionally, the use of David Harvey's theory of the spatial fix to propose an additional role and purpose for green consumerism extends the application of this concept to the abstract space of commodity markets. It is important to note that when considering other industry sectors, additional studies are needed to discover if green consumerism plays a similar role in other non-conventional industries.

4.3 Final Thoughts

In concluding this study, it is essential to clarify that by calling attention to the failings of green consumerism, the intent of this research is not to diminish the potential impacts of consuming sustainable products. Rather, it is intended to encourage consumers to step outside the role that has been constructed for them by green consumerism. To inform their purchasing decisions beyond the limits of eco-labeling schemes and product packaging. To locate trusted brands, producers, and

businesses implementing meaningful sustainability measures. To recognize that because a product is advertised as green or sustainable, does not make it so. And to understand that to simply consume our way to more sustainable consumption and production is to overlook other significant requirements for achieving SCP. Green consumerism keeps to the “path of easy walking,” where individuals don their consumer-identities, vote with their dollars, and are disproportionately assigned the responsibility of solving the complex issues of unsustainable consumption and production through continued, ‘green’ consumption (Maniates, 2009, p. 390).

This study calls individuals to assemble along the other path, the harder path that challenges the dominant ideology, the one that Maniates describes as the rocky road to a “future world that will not be easy to reach” (2009, p. 390). On this path, individuals’ understanding of the importance of their consumption patterns (choices and levels) is balanced by an awareness that these choices are shaped by systemic forces that unless reframed, will continue to bind us to consumption-focused and growth-oriented ‘solutions’. On this path, individuals participate as citizens, through collective action, through voice and vote to impact change, recognizing that such a pivot with require widespread policy shifts to help remake the institutional and political structures that currently work to sustain capitalism (Maniates, 2009).

APPENDIX
SURVEY

1. Do you agree to participate in this research study? By selecting 'Yes', you consent that you are willing to answer the questions in this survey.
2. In what city do you currently live?
3. Which option best describes you?
 - Female
 - Male
 - Other
 - Prefer not to answer
4. Which option best describes you? (you may select more than one option):
 - White (Examples include: German, Irish, English, Italian, Polish, etc.)
 - Hispanic, Latino/a, or Spanish origin (Examples include: Mexican or Mexican-American, Puerto Rican, Cuban, Colombian, etc.)
 - Black or African American (Examples include: African American, Jamaican, Haitian, Nigerian, Ethiopian, etc.)
 - Asian (Examples include: Chinese, Filipino, Vietnamese, Indian, Pakistani, etc.)
 - American Indian or Alaska Native (Examples include: Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Nome Eskimo Community, etc.)
 - Middle Eastern or North African (Examples include: Lebanese, Iranian, Egyptian, Syrian, Algerian, etc.)
 - Native Hawaiian or other Pacific Islander (Examples include: Native Hawaiian, Samoan, Chamorro, Tongan, Fijian, etc.)
 - Other (please specify)
5. What is your age?
 - Under 18
 - 18-24
 - 25-34
 - 35-44
 - 55-64

- 65+
6. What is the highest level of education you have completed?
- High school degree or equivalent (e.g., GED)
 - Some college but no degree
 - Associate degree
 - Bachelor's degree
 - Master's degree
 - Doctorate degree
 - Other (for example, less than high school, trade/technical school, certificate program, etc.). Please specify.
7. What is your marital status?
- Single, never married
 - Married
 - Domestic Partnership
 - Separated
 - Divorced
 - Widowed
8. Do you have children who live in your home on a part-time or full-time basis?
- Yes
 - No
9. Which of the following best describes your household income in 2018?
- Between \$0 and \$29,999
 - Between \$30,000 and \$49,999
 - Between \$50,000 and \$74,999
 - Between \$75,000 and \$99,999
 - Between \$100,000 and \$150,000

- Over \$150,000
10. Which store(s) do you primarily purchase your eggs from?
- Kroger
 - Whole Foods Market (*Prime Now shopping excluded)
 - Both
 - Neither
11. Please provide the city where this store is located (if you shop at more than one location, you may list multiple locations).
12. Why do you purchase eggs from Kroger and/or Whole Foods Market? (please select all that apply)
- Convenience (located near your home or work)
 - Trust the brands carried by this store
 - Prefer the store environment over other grocery stores
 - Purchase other groceries at this store
 - Store services (e.g., grocery delivery, online ordering and in-store grocery pickup)
 - Cost is reasonable
 - Other (please explain)
13. How often do you purchase eggs from this store/these stores?
- Weekly
 - A few times per month
 - Every few months
 - Other (please specify)
14. Which of the following describes the type of eggs you typically purchase (type refers to conditions of egg production, or the way in which flocks of egg-laying hens are raised)?
- Cage-Free
 - Certified Organic Cage-Free

- Certified Organic Free-Range/Free-Roaming
- Pasture-Raised
- Certified Organic Pasture-Raised
- Certified Organic
- Natural/All Natural
- Other (please specify)

15. In a few sentences, please explain why you purchase this type of eggs.

16. For how long have you been purchasing this type of eggs?

- A few weeks
- A few months
- 1 year
- 2+ years
- Other (please specify)

17. Have any of the following influenced your decision to purchase this particular type of eggs?
(please select all that apply)

- Advertising (e.g., commercial on television, print or in-store ad)
- Packaging (e.g., images and/or statements/phrases on the egg carton)
- Taste (i.e., you believe that this type of egg tastes better than other types)
- Nutritional value (i.e., you believe this type of egg is more nutritious than other types)
- Support for higher hen welfare standards (i.e., you believe this type of egg production offers higher levels of hen welfare)
- Recommendation from friends/family
- Efforts to be a more green/sustainable/responsible consumer (i.e., you believe that choosing this type of egg aligns with this overall effort)
- None of the above
- Other (please elaborate)

18. What other statements/certifications are found on the eggs you typically purchase? (please select all that apply)

- Farm Fresh
- Natural/All Natural
- Rich in Omega-3
- Certified Organic
- Certified Humane
- American Humane Certified
- Animal Welfare Approved
- United Egg Producers (UEP) Certified
- Food Alliance Certified
- Hormone-Free/Raised without hormones
- No Antibiotics/Raised without antibiotics
- Vegetarian-Fed/Vegetarian
- I do not know
- Other (please specify)

19. Which egg brand(s) do you typically purchase from Kroger and/or Whole Foods Market? (please select all that apply)

- 365 Everyday Value (Whole Foods Market's brand)
- Simple Truth (Kroger's brand)
- Vital Farms
- Pete and Gerry's
- Organic Valley
- Jeremiah Cunningham's World's Best Eggs (Coyote Creek Farm)
- Egglan's Best
- The Happy Egg Co.

- Handsome Brook Farm
- Blue Sky Family Farms
- Sauder's Eggs (Amish Country)
- I am not loyal to any one brand
- Other (please list the brand)

20. Have any other following influenced your decision to purchase this particular brand of eggs?
(please select all that apply)

- Advertising (e.g., commercial on television, print or in-store ad)
- Packaging (e.g., images and/or statements/phrases on the egg carton)
- Taste (i.e., you believe that this brand of eggs tastes better than other brands)
- Nutritional value (i.e., you believe that this brand of eggs is more nutritious than other brands)
- Higher hen welfare standards (i.e., you believe this brand implements higher welfare standards for its hens)
- This brand/farm is local to Texas
- This brand works with family farms
- Recommendation from friends/ family
- Brand/company implements green/sustainable/responsible business/agricultural practices
- None of the above
- Other (please elaborate)

21. If you have ever been unsure about the meaning behind an egg type, certification, etc., approximately how much time did you spend researching the topic to find answers?

- Up to 10 minutes
- Up to 20 minutes
- Up to 30 minutes
- Up to 45 minutes

- Did not research
 - Other (please specify)
22. This question relates to the carton of eggs currently in your fridge. Please provide the plant number printed on the carton. You can locate this number next to the 'Sell By' date. It starts with a 'P' or 'D'. (e.g., P-1234. *Please scroll to the next question to see an example).
23. Consider the images and statements found on the egg carton for the type and brand of eggs you typically purchase. What impression is formed about the hens, the eggs, the farm, etc.? (please list any words you associate with the images/statements and/or briefly describe any thoughts you would like to share).
24. Using a scale from 1 (lowest standard) to 10 (highest standards), please rank each of the following egg types or egg production processes based on hen welfare standards (i.e., how the hens live/are raised):
- Free-Range/Free-Roaming
 - Certified Organic Free-Range/Free-Roaming
 - Caged/Conventional
 - Cage-Free
 - Certified Organic Cage-Free
 - Pasture-Raised
 - Certified Organic Pasture-Raised
 - Certified Organic
 - Natural/All Natural
25. Please select all of the following statements that you believe apply to the type of eggs you purchase (i.e., if you purchase Cage-Free or Certified Organic eggs, select the statements that apply to this type of eggs):
- Hens live indoors without access to sunlight and fresh air
 - Hens live indoors with access to outdoor space (this may or may not include grass, dirt, etc.)
 - Hens live primarily outdoors, with access to grass and dirt, during the day when weather permits
 - Hens have room to spread their wings and scratch around in the dirt

- Hens undergo a treatment called beak trimming, where a portion of their beak is removed at a young age
- Hens have access to seasonal grasses
- Hens live in battery cages, and have no room to move around or spread their wings
- Hens have 108 sq. ft. of outdoor space each (similar to the surface area covered by a little more than 3 queen size mattresses)
- Hens have 67-68 sq. inches of space each (a standard sheet of paper is approximately 94 sq. inches)
- Hens have 1-1.5 sq. ft. of space each (similar to the surface area covered by a 12" x 12" box)
- Hens have the opportunity to forage for insects and seasonal grasses
- Hens are able to engage in natural behaviors like nesting, perching, and dust bathing
- Where production declines, hens undergo a process called force molting, where they are denied food for up to two weeks in order to induce another egg-laying cycle
- Hens may be treated with antibiotics if they become sick or injured
- Sick or injured hens can only be treated with natural remedies (no antibiotics can ever be used)
- In cases where antibiotics cannot be used to treat a sick or injured hen, hens may be euthanized if natural remedies do no work
- Hens are usually retired and replaced with a young flock when they begin laying fewer eggs, around 2-2.5 years of age. Retired hens may be euthanized, sold to buyers for backyard farming, processed for use in dog food, etc.
- Hens are raised without the use of hormones
- Hens are raised using hormones
- None of the above
- Please feel free to include additional statements not provided in the list

26. Using a scale from 1 (not at all important) to 5 (very important), please provide your opinion on the importance of the following to hen welfare:

- Access to fresh air
- Access to sunlight

- Access to grass and dirt
 - Adequate space to stand, move about, and spread their wings
 - Ability to engage in natural behaviors like perching and nesting, scratching in the dirt, and foraging for bugs and grasses
 - Use of antibiotics to treat illnesses and injuries
 - Use of natural remedies (only) to treat illnesses and injuries
 - Strict guidelines around the euthanasia of incurable, injured, or retired hens to ensure as humane a process as possible
27. On a scale from 1 (not simple at all) to 5 (very possible), how simple it is to understand what each type of egg production involves solely based on information provided on the packaging? (i.e., is the meaning behind Pasture-Raised or Certified Organic clear from information/images on the packaging?)
28. On a scale from 1 (not confident at all) to 5 (very confident), how confident are you that the information provided on egg packaging helps consumers make informed decisions about the product? ('information' includes what the type of egg is, images and phrases on the packaging, certifications, etc.).
29. On a scale from 1 (very unlikely) to 5 (very likely), how likely are you to trust a type or brand of eggs that is certified by one or more of the following, over one that is not certified:
- Certified Organic
 - Certified Humane
 - American Humane Certified
 - Animal Welfare Approved
 - United Egg Producers Certified
 - Food Alliance Certified
30. If you have any additional comments that you feel will add value to this research, please include them below.

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