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Ugly Food for Thought:
Ripple Effects from a New Food Movement

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Vassar College, Class of 2020

A Senior Thesis
Advised by James Challey & José Perillán

*Submitted to the Faculty of Vassar College in Partial Fulfillment of the Requirements for the Degree of
Bachelor of Arts in Science, Technology, and Society*

Abstract

In 2015, the Ugly Food Movement started by companies and campaigns to market and sell aesthetically suboptimal fruits and vegetables. The movement began in response to an increasingly visual culture in which many customers and retailers reject produce on the basis of visual cues and unrealistic expectations influenced by the media. In order to reestablish the value of imperfect produce, ugly food start-ups including Misfits Market, Imperfect Foods, and Hungry Harvest emerged to promote the fruits and vegetables others ignore and now deliver to many major metropolitan areas throughout the United States. These companies partner with growers and customers to expand access to fresh food at affordable prices, conveniently ship produce boxes to doorsteps, and reduce “ugly” food waste. However, the ripple effects of this millennial movement are far-reaching and complex. Food-justice advocates argue that these profit-based solutions are disingenuous and ill-equipped to combat food waste and inaccessibility. Instead, they may take away from local services such as Community-Supported Agriculture (CSA) programs. This thesis unpacks the context in which the movement sprouted and its national positionality. It argues that while the Ugly Food Movement has benefitted some farmers, executed exemplary marketing, and performed effective social outreach, it is limited. However, through fruitful and noncompetitive collaboration between local food communities and ugly food efforts, imperfection could feed more communities.

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Introduction

I first confronted cosmetically imperfect produce while working for City Green, an urban farm in Clifton, New Jersey. As a sustainability intern for the summer, I worked aboard a custom-designed refrigerated mobile market to distribute City Green's organic fruits and vegetables to local residents who could not access fresh produce. The mobile market provided three attractions: organic local fruits and vegetables, easy accessibility through a mobile market, and affordability through government subsidies. However after working at the market for a few days, I was surprised to discover that people wanted an additional attractive good—cosmetically perfect products. This desire for aesthetically pleasing produce was often *the* deciding factor for whether someone bought a cucumber or Jersey-fresh tomato.

One particular summer in July, at the peak of the tomato season, City Green produced hundreds of pounds of hand-harvested heirloom tomatoes. Heirlooms widely vary in shape, come in a full spectrum of red and green, are incredibly juicy, and irresistibly delicious. They are also wonky, sometimes overwhelmingly large, brown-ringed on the bottom, and easily bruised. Curious and critical customers at the market noticed these imperfections immediately. At one particular market in Caldwell, New Jersey, customers probed about the tomatoes' quality.

“Why is there a brown ring at the bottom?”

“They are too big, how am I supposed to fit this on a cold cut sandwich?”

“Are these organic? Because they look genetically modified and unsafe to eat.”

Customers were quick to reject these organic heirloom tomatoes on the basis of aesthetic appeal. By the end of the selling week, there were dozens of cardboard trays of heirlooms leftover: uneaten and now unsellable. Many of these tomatoes would be distributed to employees

for free, or turned into compost for the other burgeoning crops in the peak of summer heat. The loss of the heirlooms was an environmental, financial, and community devastation. As someone who witnessed this waste, I felt compelled to personally unpack why this tragedy occurred and what could be done to fix it. When I finally thought I found the solution through the Ugly Food Movement, I had a thesis to write. To delve deeper into the movement, I purchased my own ugly produce box from Misfits Market to further unpack the product of interest for personal investigation and for potential hope that City Green's heirlooms could fit in other markets. I choose Misfits because they are one of the few ugly produce organizations who ship to Poughkeepsie, New York—the region of residence and research.

Unpacking My Box

Misfits Market offers only two box sizes: Mischief and Madness. The Madness box is the larger of the two options, and includes 18-22 pounds of mixed fruits and vegetables. In the one I ordered, the Mischief box included 10-13 pounds of organic produce. In the box was an assortment of produce pieces—parsnips, potatoes, shallots, squashes, apples, oranges, kale, peppers, and green beans. Wrapping these items was a thick, brown packaging along with plastic insulation, compostable bags, and heavy brown paper. Additionally, the box came with a whole ice pack, which supposedly keeps the products fresh in the shipping process. Some of the produce had stickers to describe their origin. The acorn squash was grown in Mexico, while the oranges were from Florida. The box itself was shipped from Southern New Jersey, hundreds of miles from Poughkeepsie.

The side of my box read classic Misfit's taglines, "Always delicious, sometimes normal" and "Always affordable, occasionally funny-looking." Surprisingly, not all items in my box were

blemished or “funny-looking” at all. In fact, most of the contents of the box were not only normal, but were more conventionally-shaped than produce within Community-Supported Agriculture (CSA) distribution tents, and even some grocery stores. While a few potatoes had a few dulled rough patches or scratches and the oranges had small bug marks, the vast majority of the food was not ugly. The carrots were perfectly straight, and the apples bright red, symmetrical, and bruise-free. The normalcy of produce in the box was a surprise after how the items were aggressively advertised as significantly straying from the cosmetic “norm” (whatever that was).



Figure 1: Produce in my Misfits box



Figure 2: Packaging included

Perplexed by the beauty of this box after reading thoroughly about the misfits to be included, I continued my research. This thesis seeks to understand the social and environmental good promised by the members of the Ugly Food Movement in comparison to the goods delivered. The box provides social and technological significance beyond the fruits and vegetables it carries; it is a physical artefact which represents the social, environmental, and economic tensions implicit in the Movement. Just as the mechanized tomato harvesters

redesigned the way farm work occurred, ugly produce boxes are the newly minted artifacts of the modern food industry, curated with specific aims including profit and convenience. The ugly food box is an artefact which this thesis unpacks through the larger movement behind it.

The Ugly Food Movement is a solution-driven food movement which aims to revalue cosmetically challenged foods through heavily marketed companies and campaigns to reduce food waste and generate accessibility to fresh foods. Within the past six years, dozens of for-profit startups have come to commodify the misfit or suboptimal produce in produce boxes delivered to home doorsteps in brown boxes. Ugly food start-ups including Imperfect Foods, Misfits Market, Hungry Harvest and dozens of others sell suboptimal fruits and vegetables at reduced prices throughout the United States, especially in major metropolitan areas. While there are many more organizations than these three companies, these are used as representative examples throughout the thesis.

The Ugly Food Movement has filled logistical gaps in the food supply chain, cultivated deeper conversations with farmers and consumers, contributed to environmental well being and reframed ugly food through strategic marketing campaigns which is changing how consumers approach aesthetic differences. However, the food movement has also ignited debates surrounding the ethics of commodifying flawed foods, and whether this is a sustainable and effective way to heal our broken food system, as it is rooted in the interests of industrial agriculture and gentrified food spaces. These niche ugly markets might be insufficient in addressing macro-scale farming overproduction, household waste, and widespread food insecurity. Without working in conjunction with other local and national efforts, the success of the Ugly Food Movement might be limited.

Proponents of this movement were convinced this was the salvation of our food industry, while opponents were assured this would be a superficial fix to one problem with the complex system of food production, distribution, and consumption. As these conversations unfolded and dozens of op-ed articles were read, it became obvious that controversy surrounds the Ugly Food Movement. Opposers of the Movement tended to attack ugly food companies as disingenuous solutions to the highly complex food waste problems, while supporters believed these companies were the only necessary fix. These polarities sparked the core questions I posed for interviews with players in the movement: experts, concerned customers, and entrepreneurs. My two guiding questions became: What is the cultural, historical, and systemic context in which the Ugly Food Movement sprouted? Also, what is its specific positionality as a national food system solution in relation to other food movements and local efforts?

Sources

Academic research on the Ugly Food (or Produce) Movement has been largely absent because the movement is recent. Therefore this thesis is based on conversations and interviews with key players in this food movement, and a wide array of heated Op-Ed articles authored by food bloggers, investigative journalists, and food activists. The few scientific studies included were related to consumer and behavioral research in food products and aesthetic food standards, and were often conducted in Europe, particularly in the United Kingdom and Scandinavia. Because of this dearth of social research on ugly food, this thesis is a product of field work consisting of qualitative interviews, email correspondence, and consistent involvement at a local farm in the Hudson Valley where this project was completed. All persons interviewed were kept anonymous to protect their privacy.

From conversations with the cashier at the local grocery store to the writer of USDA standards for produce in the United States to the Chief Executive Officer at one ugly produce start up—the thesis includes voices and opinions which span the spectrum of involvement in the Ugly Food Movement. Altogether, this thesis culminated from a dozen interviews, social scientific research, personal participation in a local food system, and investigative reports on food waste and food futures.

A Note on Theory

While there are no explicit mentions of science and technology theory, I reflected heavily on somnambulism, Actor-Network Theory (ANT), and technological artifacts before writing. The movement reacts to the consumer somnambulism of flippantly rejecting aesthetically imperfect items along the food supply chain. Moreover, Latour's ANT, which represents 'technoscience' as the creation of larger and stronger networks, informed my discussion around entrepreneurialship, local food justice efforts, and food worker connections along the supply chain. All of the mentioned start-up companies and campaigns were made possible by an in-sync network of actors. Also, underlining the debate over whether ugly food matters, is the question of noise versus signal. Is ugly produce an important signal in the broken American food system, or mere noise? This important STS concept drives the debate.

Outline of Chapters

More than half of the content of this thesis is important contextual information about high beauty standards for produce which produced seeds for the Ugly Food Movement. The American food waste crisis is presented in Chapter 1 to paint some of the harmful effects of cosmetic standards. To detail the specifics of how waste is generated, food loss is outlined from the farm

to the landfill. At each stage of the food supply chain, where food is being haphazardly lost or intentionally wasted is revealed. After this section on food waste, these aesthetic preferences are placed within a contemporary cultural and systemic context in Chapter 2. The large impact of marketing, media, and television on the creation of unrealistic cultural expectations for how food should look is highlighted here. Then, the United States Department of Agriculture's (USDA) establishment of optional quality standards for the grading of fruits and vegetables is proposed as a contributor to high standards both on the farm and in the marketplace.

In Chapter 3, the national Ugly Food Movement is situated within its historical, economic, and culture context, starting in France. The chief companies and campaigns of the movement are introduced within the for-profit sector. The efforts which jump started the Ugly Food Movement and led to its popularity, or perhaps notoriety, are unpacked. Additionally, these startups are placed within a larger food delivery and millennial marketing backgrounds.

In Chapter 4, we look at a local food context, the Hudson Valley, and discuss Community-Supported Agriculture as a local expression of food culture and means of effectively integrating and promoting ugly produce apart from national movements. Reflexive localism—a nuanced approach to embracing our local political food economies—is proposed as a sustainable solution to address broken food systems at both national and community scales through cooperation and dialog across differences. A reflexive approach to food systems calls us to embrace imperfection not only in the food we consume, but in the systems we support.

Chapter 1: Unpacking Waste and Imperfections from Farm to Fork

The Ugly Food Movement responds to the crisis of food waste throughout the world, but specifically in affluent nations. Often cited as one of the biggest and ignored problems of the developed world, food waste should be on the forefront of national conversations given its magnitude and consequences, but often is not. More than 40% of all food is wasted in the United States—enough to fill 44 skyscrapers (Aubrey). At the same time, more than 14.3 million American households are food insecure—more than 11.1% of the US population (USDA). In fact, 25.3 million Americans live in food deserts where fresh produce is typically not available, an issue of inequitable distribution in a land of plenty.

Wasting food has long-lasting environmental impacts. In fact, if food waste were a country, it would create the third highest levels of pollution, behind China and the United States. Food left in landfills releases the polluting greenhouse gas methane in dangerous proportions. Methane is one of the largest molecular contributors to climate change. Before it enters these landfills, extensive energy is required to grow and distribute the food—fossil fuels are necessary to grow and ship food, a process which generates a “third of all greenhouse admissions” (de Hooge et al.) nationally. Besides the process generating toxic byproducts, the process of growing food requires precious resources. In the United States, 21% of our national water reserves, 18% of our land, and 10% of our available energy is devoted to food production (Ibid). Food waste is both an environmental and moral crisis—the inability to effectively steward limited resources, and to distribute it equitably.

Fruits and vegetables, the nutritional fuel necessary for health and longevity, is the most wasted category of food nationally. In 2010, Americans let 25 billion pounds of produce go to

waste—40 percent of all edible fruits and vegetables (Bilow). Today, 23 percent of fruits and vegetables are wasted before arriving in grocery stores. This wastage may partially stem from cosmetic standards food graders, retailers, and consumers impose on produce. These standards are based mostly on how the fruit or vegetable looks in shape, color, and size, and are independent from the quality of the produce in taste, freshness, or nutritional makeup. There is hope that diverting waste from cosmetic imperfection can yield economic, social, and environmental benefit. According to Refed, which is a data-driven base for food waste solutions listed “accepting and integrating the sale of imperfect produce” as one of the 27 ways to tackle food waste. The harvesting and selling of imperfect produce would save 266,000 tons of produce, result in an economic return of \$1039 per ton, reduce greenhouse gases by 422,000 tons, and save 39 billion gallons of water. There is great power and possibility in salvaging and selling rejected fruits and vegetables nationwide.

In the literature, imperfect produce is also dubbed misfit, suboptimal, wonky, abnormal, or oddly-shaped. Suboptimal produce tends to be asymmetrical, oversized, undersized, cracked, dulled, or blemished. They are rejected due to selling standards based on consumer preferences for external perfection—not due to damage or spoilage. In fact, the quality of imperfect produce may be identical or even superior to that of perfect ones. Many of ugly fruits and vegetables become cosmetically-challenged by natural processes in the field or on the farm.

How Ugly Happens

Fruits and vegetables become deformed due to three major reasons, all due to normal agricultural growing processes in open fields: failure to pollinate fully, severe temperatures or weather, and insect interference. To start off, produce is misshapen due to inadequate pollination

(Johnson). For example, strawberries that have not been pollinated fully and symmetrically develop irregularly. While weather including rain and wind helps to move pollen within the flower around to self-pollinate, other pollinators such as birds and bees are necessary for complete pollination. An inadequate number of pollinators can impede the pollination process and result in the formation of non-triangular and bulging strawberries, among other possible deformities in coloration and size (Ibid).

Cold or severe weather can also create deformities on the surface of the fruit or vegetable. Hail, heavy rain, and wind can all cause pock-marks on the surface of the produce. Frost or cold-weather also causes abnormal growth because the cold kills some of the flower-producing parts of the plant, but not in its entirety. This may result in a strawberry's dimpled or bulging shape, or an apple's uncentered form. Strawberries tend to fuse together due to shorter days or colder seasons than normal. While the final fruit and vegetable products are still edible and mature after the weather damage, they are usually left oddly-shaped.

Finally, insects also chew at parts of the immature fruit, creating fissures and dips in the mature fruit during the growth process. This happens frequently to strawberries whose high fructose levels and bright red color attracts slugs, root weevils, meadow spittlebugs, and tarnished plant bugs, among others (Besin). All three of these cases: inadequate pollination, frost, and insect disruptions to the growth process produce the perfectly edible, yet imperfect fruits and vegetables often rejected in stores and by consumers. Although these defects are visually unappealing, the flesh of the fruit is unaffected and safe to eat. None of these differently-formed fruits or vegetables contain cancer or transferable processes—the produce simply looks unuly and strange.

Besides these deformities from external conditions, some fruits and vegetables change shape and structure because of the makeup of the soil they grow in. Particular varieties of vegetables, such as root vegetables, encounter hard substances in the soil which force certain growth patterns as adaptation. For example, pebbles lodged in the soil can prevent carrots from growing in the soil straight as they would without such an impediment. These rocks or roots may cause carrots to grow in multiple directions to avoid the pebble or other obstruction in the ground where they try to sprout. Other root vegetables such as potatoes may experience a similarly divergent growing pattern and compensate by developing pocketed sections rather than a singular round tubular without dips and bulges.

Besides their propensity to grow unevenly in the soil, potatoes are particularly prone to internal disease which manifests on the skin. Silver scurf or hollow heart are two cosmetic conditions which affect the surface of the potato. Silver scurf is a fungal disease which gives the potatoes a silvery sheen. The impact, however, is limited to the skin and tuber and does not affect the potato's quality. Potatoes also suffer from hollow heart, another noninfectious disorder which leaves a cavity within the tuber (Zotarelli et al.). These conditions greatly impact potato sales. Tim Terpstra, the farm manager at Ralph's Greenhouse which primarily grows root vegetables in Mount Vernon, Washington State, says that these cosmetic diseases have deep consequences. He reports, "[the farm] cull[s] up to 30-35 percent ... because of weird, cosmetic things they have." (Godoy) Tons of potatoes are discarded when retailers refuse to buy products with these surface-level abnormalities, and farms often suffer.

Drawing the Line Between Ugly and Spoiled

In contrast to ugly produce—fruits and vegetables which became deformed under natural growth conditions as formerly outlined there is also “rotten produce” which is “spoiled, moldy, or so inedible as to make someone ill” (“The Ugly Produce Problem and Food Waste”). This type of produce is not simply cosmetically unappealing, but unsafe to consume and unfit to distribute. Rotten radishes, smushed strawberries, and insect-infected corn should not enter the market at all and should be composted or thoughtfully discarded. Spoiled produce should be clearly differentiated from suboptimal produce which contains external abnormalities only, unaccompanied by changes to the constitution of the fruit or vegetable.

While visual cues are sometimes an indicator of health and quality, sometimes these appearances deceive. Produce may carry harmful pathogens and bacteria without any external flaw. The hearty head of lettuce or perfectly rounded cantaloupe may be the most contaminated. In the United States, *Salmonella* bacteria is the most common cause of foodborne illness. The Centers for Disease Control and Prevention (CDC) estimates that the *Salmonella* bacteria “cause about 1.35 million infections, 26,500 hospitalizations, and 420 deaths in the United States every year” and “food is the main source of these illnesses” (CDC). *Salmonella* is common in eggs, meat, and poultry, but it is also found in fresh fruits vegetables including lettuce and salads which are usually eaten raw.

Sadly, salmonella is not the only pathogen that ends up on produce, invisible to the naked eye. Hepatitis A is a virus which sometimes infects people. In 2003, the green onions in salsa from a “Pennsylvania ChiChi’s restaurant transmitted hepatitis A to 555 people, killing three. Also that year, *E. coli* on a bagged salad mix sickened more than 50 restaurant patrons in the San

Diego area” (“Salmonella Outbreaks Linked to Produce on the Rise”). While consumers often resort to visual cues to differentiate safe produce from harmful, a fruit or vegetable’s outward appearance is an unreliable indicator of its health. Looks deceive in more ways than one.

Unpacking the Classic Food Supply Chain

Despite the fact that many ugly fruits and vegetables are safe and good to eat, many of them are rejected starting as early in the supply chain as in the fields. This section discusses the classic food supply chain, and in the process, the steps at which a particular fruit or vegetable might be dismissed for cosmetics. An accessible aid to understanding the complicated series of steps involved in the strawberry supply chain is a sixty-second video developed by the Natural Resources Defense Council’s (NRDC) food waste initiative called savethefood.com, “The Extraordinary Life and Times of Strawberry.” The clip traces a strawberry from its growth on a farm to household garbage bin. What is extraordinary about the strawberry’s life is not its maturation process or packaging, but the sheer number of workers and machines which handle each carton, traveling thousands of miles to arrive at each supply chain checkpoint. An ugly strawberry can be rejected at many points along the chain, for a variety of reasons and by a number of actors.

The strawberry is first picked from the strawberry plant in the field, placed in a plastic container by a farmhand, and loaded onto a truck to be taken out of the strawberry fields. From there, it is sent to a processing plant to be sorted and screened for quality, later hauled onto large trucks across the country to the grocery store destination. At the store, a customer picks the box of strawberries and drives it home in a car. After arriving home, the strawberry carton is stored in the back of the refrigerator for an unspecified period of time, yet enough for mold to grow.

Finally, the moldy strawberries and carton are thrown away in the garbage can to be shipped to the landfill days later, where the strawberries and carton will slowly decompose.

Besides the 12 moldy strawberries thrown away as the final product, waste exists at every step of the food supply chain from the field to the landfill. In the process of producing the strawberry, precious resources are expended for a final product which has a net worth a small fraction of the high cost of labor and resources involved. The clip concludes with this warning for viewers: “Wasting food wastes everything: water, labor, fuel, money, love” (“The Extraordinary Life and Times of Strawberry”).

The life of the strawberry is a “farm to fork” narrative—a traceable process a food product undergoes as it moves through the supply chain from the field to the household food waste. This complex process includes production, processing, transport and storage, distribution to consumers, and disposal. Key players in the supply chain include farmers, processors & inspectors, transporters, storagers, and consumers. For fresh fruits and vegetables along the supply chains, there needs to be greater attention to safety, quality, and timing (Ibid). Thus, farm losses are “higher with fruit and perishable vegetables than with more stable commodity crops—corn, wheat, oats, sorghum, barley, rice, soybeans, and cotton...” (Bloom 95). Fresh produce supply chains are different from other product or food supply chains because the items change continuously throughout the process (Yu & Nagurney 2012). High perishability for fresh fruits and vegetables makes this process vulnerable to high wastage.

The industrial farm-to-fork process is a wasteful one, but even more so for “undesirable” products which are discriminated against first by farmers, secondly by packinghouses, then by retailers, and lastly by picky consumers. Nearly 85% of the 63 million tons of food wasted

occurs downstream at consumer-facing businesses and homes, although there are significant sources of food waste upstream from farms and packing houses (“Rethink Food Waste” 2020).

The following graphic displays the waste amount in tons by supply chain stage.

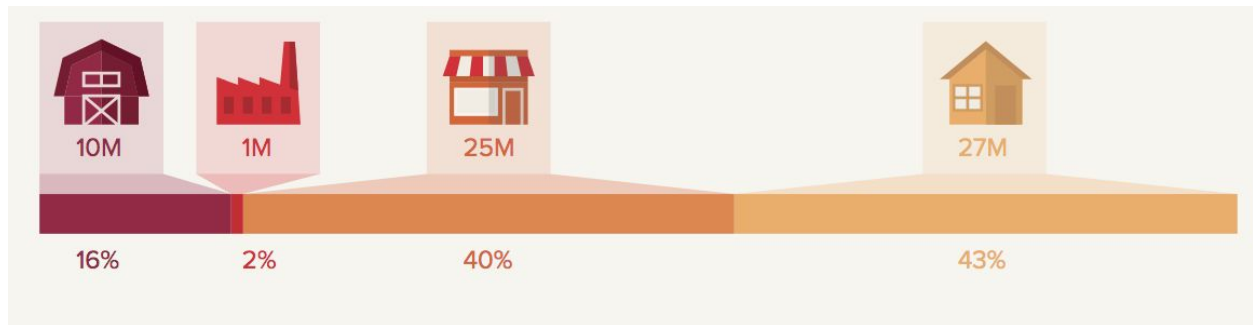


Figure 3: Breakdown of types of food waste. Source: Refed.com.

The following section will outline the long journey of a produce item from the vine on the corporate American farm to your household fruit bowl. In the process, we can see where these products fall through the supply chain along the way and some explanations why food loss happens at each stage, until it becomes food waste at the end of the supply chain in the consumer’s home or restaurant’s kitchen.

Stage 1: Farm Food Origins

Increasingly, consumers are opting for fresh produce over canned or frozen (Bloom 97). In Stage One of the food processing chain, farmers are more selective about the items they choose to harvest, cognizant that these produce pieces will be chosen as they are—not hidden by being pureed or chopped up in processed foods. Therefore, they overvalue form for fresh food from the farm and are especially choosy about which items they pick during harvest.

Farmers and farm hands intentionally and unintentionally generate two major sources of food loss at this initial farming production stage. In the first waste condition, produce is left unharvested in the field. For the sake of optimal freshness, many produce items are rejected in

the field before being picked. Thus, “the winnowing begins in the field” (Bloom 93). While systematic studies on farm waste are still yet to be done, based on tallies from the USDA it is estimated that “9 percent of commodity crops planted in the United States aren’t even harvested” (95) usually due to unappealing looks. While some of these losses come from “frost, hail, pests, and viruses,” much of the waste is human-driven. Consider produce on a large farm in Northern Virginia called Parker Farms. Parker Farms sells tomatoes, peppers, squash, cucumbers, and more to the fresh market. Today, they maintain over 10,000 acres of production in 8 east coast states. While every pound of produce is potential revenue for farms, “growers ask their pickers to be selective in the field because they know [their products] have a long way to travel” (4). Experienced harvesters at Parker Farms know which items to collect, and which to leave uncollected. For example, almost half of the cucumbers are left unharvested due to their identified flaws such as excessive curviness which makes box packing and supermarket stacking difficult. Also, cucumbers with small cracks are rejected because they do not age as well, but would be fine to sell locally. Many of these decisions are made based on transportation and selling logistics, not taste or quality.

In the second situation, produce is harvested, but either lost or wasted sometimes due to human error. Unfortunately, many fruits and vegetables on farms are squandered due to human recklessness and apathy toward waste and avoidance of the effort necessary to prevent it from ensuing. For example, a driver at Nick Ivicovich’s pear orchard in California dropped 2,000 pounds of pears from the truck. While some of those pears were sent for juice-making, others were simply left to rot in the dirt because of his poor driving. The workers decided that the fruits were too ugly to successfully sell after being dropped and bruised in full form.

Stage 2: Inspection and Processing at Packinghouses

Once products have been harvested, successfully transported out of the farm, they are sent off to be processed in plants and packinghouses. In the United States, packinghouses perform operations including washing, sorting, waxing, storing, and transportation through the commercial supply chain. Ultimately, they prepare produce either for the public or for further processing. The produce to be marketed as fresh are brushed—often the cosmetically preferred fruits and vegetables—are rewashed, dried, and waxed. After the cleansing process, packinghouses separate the fresh produce according to grade to send off. The best grades (U.S. Grade 1 potatoes, U.S. Extra Fancy) are shipped to high-end grocery stores who can pay the top price, while second-grade produce goes to food service, lower-end grocery stores, food banks, and ugly-produce vendors. The individuals responsible for performing fruit and vegetable grading and inspections are officially titled “Agricultural Commodity Graders-Fresh Fruit and Vegetable” (ACG). Agricultural Commodity Graders are frequently called inspectors, although they also grade produce. At packinghouses where these inspectors work, the fruits and vegetables to be sold fresh at stores are separated from the produce to be processed in plants.

Severely misshapen and discolored produce sometimes goes for processing to create “juice, jam, baked goods, salsa, soups, guacamole or other foods” (Taber). However, many fruits and vegetables do not have a processing market. For example, eggplant, acorn squash, and rutabaga and dozens of other varieties of fruits and vegetables cannot be easily juiced, pureed or made into soup or salsa. Without a processing outlet, a grower’s best options for fruits and vegetables is to either leave them in the field, send them to become animal feed, or compost them. While not all of these may qualify as ‘true’ waste by strict definition, none of them are

ideal for the farmer or public, since they offer little or no real return on their investment besides avoiding further damage to the environment.

As a last resort, packinghouses send rotten produce that cannot be recovered (culls) to fields to function as fertilizer or animal feed, and sometimes place unsortable items in landfills. Most packinghouses try to avoid landfills because the process of sending unwanted produce to waste sites costs funds. Therefore, loss in these facilities may be lower than other steps on the supply chain, but still exists. After inspecting and processing, there are three additional stages within the classic food supply chain: transportation & storage, distribution to retailers, and disposal. Consumers choose produce at the retail level—often based on aesthetics—and finally discard produce at home. Almost half of all food waste occurs at individual or household level. This food chain process is a wasteful one, and discriminates widely against imperfect fruits and vegetables. Even after making the long journey to the store, they are often rejected by customers, or left to rot in fruit bowls. These are costly waste decisions to be based on superficial criteria.

Beyond Beauty Study

To delve deeper into the specific figures of waste from cosmetically challenged produce, a study was conducted in Minnesota on farmers. In 2014, JoAnne Berkenkamp from Tomorrow's Table and University of Minnesota professor Terry Nennich collaborated “to explore the possibilities for expanding market opportunities for cosmetically imperfect [CI] fruits and vegetables” (Berkenkamp & Nennich 1). During this initiative later called “Beyond Beauty: Opportunities & Challenges for Cosmetically Imperfect Produce” funded by the USDA Speciality Crop Block program, Berkenkamp and Nennich interviewed fruit and vegetable growers “to test the market for these products among collegiate foodservices,” (Ibid) particularly

in Minnesota. They also distributed an electronic survey to growers, and received a total of 138 responses from fresh market produce growers throughout the state. The results of the survey outline the approximate percentage of all produce that can be categorized CI, which produce items are most likely to be imperfect, how growers manage CI seconds, and overall enthusiasm geared toward expanding markets for cosmetically imperfect produce.

For rates of cosmetic imperfection, they found that 1 – 20% crops are imperfect, which produces losses up to 30% or higher. Apples, tomatoes, peppers, potatoes, carrots, parsnips, cauliflower and cantaloupe were shown to have some of the higher rates of imperfection than other produce items. For the disposal of CI seconds, the results of the surveys demonstrated that “the most common fates for CI product seems to be composting or being left in the field” (2). Many farmers chose to compost or leave imperfect produce before donating it, selling the produce to secondary markets, or offering the CI seconds directly to consumers. The table below outlines how farmers used CI seconds, and the accompanying percentage of growers who used the method:

Useage of CI Seconds	% Growers who do this to some degree
Process them myself	87.0%
Compost	75.4%
Donate	71.7%
Leave in the field	60.2%
Sell directly to consumers (e.g. farmers market, CSA)	59.1%
Sell to restaurants, grovery stores or other commercial accounts	20.4%
Sell to a produce distributor or fresh-cut processor (for sale in the fresh market either whole or pre-cut)	11.0%
Sell to a processor for freez-ing, canning, or value-added processing	10.2%
Harvest and send to a landfill or other disposal facility	4.7%

Figure 4: Beyond Beauty Chart of CI second uses. Source: Study by Berkenkamp & Nennich

For barriers to selling seconds, nearly two-thirds of respondents cited “lack of an attractive market” as the most widely identified as the top barrier to generating a return for growers’ CI seconds. Finally, the results of the survey indicate that “nearly 95% of respondents indicated that they would be somewhat or very willing to change harvesting, sorting and packing practices on their farm if they had an attractive market for their CI seconds” (2). Thus, many farmers are willing to engage in alternative sourcing for their CI seconds, but often lack the market sourcing to do so. One farmer commented,

I HATE that I can’t sell my “seconds” on the basis of looks alone. We can usually sell our seconds for a lesser price to small restaurants/cafes/coffee shops; places that make their own dishes or soups. Most of our “seconds” are from bug damage. Brassicas can suffer from flea beetle damage but it is still perfectly good to eat. We have a CSA and try to educate our members about this issue. If people know it’s ok to eat “seconds” then they will (11).

While Beyond Beauty took place in Minnesota, the results of the study are compelling for other areas of the nation. By articulating the challenges and opportunities of cosmetically imperfect produce, they posed the possibility of other markets making a significant impact on farmers and produce nationwide. Berkenkamp and Nennich's project demonstrated a need for alternative markets for imperfect produce to reduce waste and to fairly compensate workers. This study also calls into question why CI seconds exist at all as a category, and which governing forces or populations are promoting some fruits and vegetables over others. To provide a better background on standards and their creation, it is imperative to look at the United States Department of Agriculture (USDA), and the part they play in reflecting consumer preferences through the creation of new standards, which we will address in the next chapter.

Altogether, this chapter covered the large and costly problem of food waste in the United States. Waste is driven by high aesthetic standards for fruits and vegetables which affect every part of the food supply chain from the fields to the fork. We examined some reasons why food is lost during the first two stages, focusing on a fruit or vegetable's aesthetics as a huge factor. As evidenced by the Beyond Beauty study, many farmers want to waste less imperfect produce, but are unsure how or what markets will take CI goods. Because these profitable venues are unavailable to them, most of the cosmetically imperfect items meet unprofitable ends. In the next chapter, we will consider the backstory of why produce is considered imperfect at all. We will see that larger cultural, governmental, and societal standards generate a strong bias for cosmetic perfection, driving the unnecessary waste we just discussed.

Chapter 2: Beauty Expectations Set by the Beholder

Until several years ago, I thought baby carrots emerged from the soil in baby form. From years of grocery store runs with little exposure to agriculture, I assumed orange cylinders simply sprouted from the soil as they were—tiny and uniform in size. However, after interning at City Green in Clifton, New Jersey, I was enlightened when real carrots surfaced in their gnarly, pyramidical, sting-laden, and altogether chaotic form. They were foreign to their polished retail-ready versions. This embarrassing, yet enlightening experience jumpstarted an examination of how I was raised to conceptualize produce versus how produce actually existed in the natural world apart from packaging, labels, and marketed curations. My agricultural understanding was limited by gross marketing misrepresentations of produce, shaping my expectations of how carrots should look. Today, the average advertised pear is more perfectly pear-shaped and the squash more vibrantly yellow than in previous decades due to technological advancement and editing capabilities.

In today's image-oriented culture, the preference for visually perfect produce is pervasive and often unchallenged. Everything from edited images of tantalizing meals, Instagrammed food dishes, and a higher prevalence of gorgeous produce has produced particular expectations for how food should appear. Even outside the public sphere, the household is influenced by the media and changing depictions of food. Cookbooks reflect the lifestyle foodies and young, urban professionals hope to emulate on coffee tables and living room bookshelves. Now used as entertainment for the bored guest, the look of cookbooks tends to determine sales. Chefs are expected to devote their careers to visually attractive dishes: "The chef is to the cook what the

fashion designer is to the seamstress” (Ray 10). Beautiful food has become a cultural obsession (Vester).

Today, consumers demand perfect products because of increased exposure to edited photos of fruits and vegetables marketed in the modern grocery store and advertisements. According to the Food and Agriculture Organization of the United Nations (2011), consumers are responsible for nearly a third of the fruit and vegetable waste, “which represents the majority of edible produce that goes to waste among the supply chain” (Nance et al.). Since consumers are the main force that “drives demand,” they expect supermarkets and farmers to provide an abundance of produce that adhere to their ideal aesthetics. Marketing further informs consumer decisions in casting a vision for what fruits and vegetables should look like, and which types are preferred, or even available. For the last several decades, marketing has been distorting our ‘natural’ appetites—causing us to dismiss uncurated food grown on farms.

The Rise of Food ‘Porn’

With the rise of the ‘celebrity chef’ and Instagram food accounts which feature beautiful foods constantly, these mouth-watering food images now have a name. They are pejoratively classified under the category ‘food porn’ or ‘gastroporn’ (“Food Porn”). The first recorded use of the phrase ‘food porn’ appeared in *Female Desire*, a book written by Rosalind Coward in 1984; however gastroporn infiltrated the vernacular in the early 2000s, booming with the widespread use of social media in the 2010s. While before food porn was only a budding concept, today the term has a definition. The urban dictionary defines food porn as “Close-up images of juicy, delicious food in advertisements.” These are the ads that tempt you to buy a steamy loaf of bread from Panera or refreshing water ice from Rita’s. Food porn is plastered on road-side billboards,

featured in commercials, and often invades social media feeds and personalized google ads on our personal devices. O'Neill suggests that the new fancy cookbooks (and by implication cooking shows on the Food Network) are pornographic because the "prose and recipes [are] so removed from real life that they cannot be used except as vicarious experience" (Guptill et al. 54). High end grocery stores such as Whole Food and Wegmans also rely on food porn's effects to generate sales. At Whole Foods, beautiful, uniformly perfect displays of meat, seafood, bakery goods, and produce abound.

Similar to mixed reactions to pornography, food porn has generated cultural dissonance. Some endorse food porn as a harmless pleasure for viewing when hungry or bored, yet others fear that these edited photographs create unrealistic expectations of how food should look and may distort our 'natural' appetites for real food. Truly, the whole process of curating food porn is a staged act that involves a team of professionals for success. Food stylists and photographers are employed to enrich the characteristics of food. A food stylist might add gloss to a hamburger bun or brighten the color of lettuce to make the burger more salient and fresh-looking. In a professional food shoot, Elmer's glue may be used as milk in cereal and marks on berries may be covered with blue lipstick and blush makeup (Romm). The nonprofessional eliminates blemishes with filters (to refine this craft, see "Keep your background blurry, never use a flash and DON'T overuse filters: How to turn your dull food images into Instagram food porn in 12 simple steps").

Entire agencies and organizations are even devoted to this food-framing craft. One such company is the Art of Plating, an "international media and events company devoted to the exhibition of gastronomy as a form of high art – utilizing form, texture and color to tell a story and evoke emotions." They produce eye-catching food content to feed the global obsession with

beautiful food. No matter what method these images of food are constructed, they all produce the same result: they whet appetites and incite the primal need for food. These images create a ‘visual hunger’ that may be increasingly difficult to satisfy through the real food nature creates—unedited and unstaged by professional curators. This is why ugly food shocks those who are unexposed to unprocessed food straight from the fields.

This portrayal of perfect food through advertisements and grocery store experiences communicates a single slice of the story behind the process and people which created the food. The booming popularity of cooking shows casts a sensational story of readily available beautiful food, but fails to tell the backstory of its sourcing and workers. Glamorized with blemish-free ingredients without discussion of their origins, TV shows and social media feeds provide incomplete pictures of the societal, environmental, and economic features and function of food. Instead, they project a virtually-created experience of gastro-excitement. They release dopamine through pictures of steaming pizza and perfectly round, blemish-free naval oranges glistening with fresh dew freshly harvested from the fields by a smiling farmer. As we already know, this is not an accurate sample of the fruits and vegetables of American agriculture.

In reducing produce to its external condition above other indicators of health and goodness, selecting food becomes a strictly visual ordeal. Since most grocery refrigerate produce before stocking the shelves or filling the bins, inspecting the produce through other senses, such as smell or taste, is no longer available as an indicator of freshness or quality. Hence, customers resort to visible cues above any other to determine a quality product worthy of purchase. Leonard Pallara, a farming consultant who used to grow vegetables at Upper Meadows Farm in New Jersey reiterates this preference, “The only thing a customer can know about a piece of produce

bought from a supermarket is what they can see” (Bilow). Supermarket marketers capitalize upon this sense by keeping the produce aisle fully stocked and brimming. “If the food waste for a market is low, they consider it an indicator that consumers did not get the experience the markets strive for” (Ibid). Annually, supermarkets lose “\$5.8 billion of fruits and \$9.2 billion of vegetables at the retail level” (Nance et al.) to maintain the illusion of abundance and easy accessibility through overshocked, perfect produce sections.

Walk into any grocery store and it is obvious that food has been severed from its natural roots. Michael Pollan articulates this current commercial food reality well in the *Omnivore’s Dilemma*, “Air-conditioned, odorless, illuminated by buzzing fluorescent tubes, the American supermarket doesn’t present itself as having very much to do with Nature” (Pollan). Produce items resemble each other in shape and hue as much as the identical cans of tomato soup a few aisle away. Perfectly placed pyramids of granny smiths, bins of beefsteak tomatoes each sporting the same shade of red, and stacks of berry cartons abound in the modern market. Odorlessness and uniformity have become the norm in produce sections. Still, we purchase the rounded and polished apples over the more naturally occurring ones despite differences in freshness and taste.

The costs of these retail arrangements of produce are dire both ecologically and conceptually. Narrow marketing disconnects consumers from real food and results in a deeper rejection of imperfect foods.

Now, for the abundance of perfect foods abound in the modern market, who is responsible for upholding these unnaturally high cosmetic standards, and what forces perpetuate them? Among food suppliers, product specifications for produce are established to manage the quality of foods offered to customers (Hooge, Dulm, & Trijp). In Europe and the United States,

standards are based upon the fruit or vegetable's ripeness level, quality, taste, shape, color, smell, size, and weight. While the USDA grading process is voluntary in the United States, this process is mandatory in Europe, and more strict. For example, for the kiwifruit, the EU decided that it needed to achieve a ripeness of "at least 6,2° Brix or an average dry matter content of 15 %, which should lead to 9,5°... when entering the distribution chain" ("Commission Implementing Regulation (EU) No 543"). This is a very precise and restrictive set of criteria, and therefore impacts which kiwis are available and sold based on their specific ripeness level. On both continents, standards help to shape which produce items make the shelves and slowly shape how consumer expectations of what foods are good based on cosmetic appearance. Next, we will discuss cosmetic specifications for food upheld in the United States by the USDA all of which reflect cultural values and cosmetic expectations for food.

USDA Standards for Produce

In the United States, The U.S. Department of Agriculture sets the standards for food quality in the marketplace. The USDA is a federal executive department in charge of developing and executing laws surrounding food, farming, and natural resources. Using the most cutting edge science and technology, the USDA sets standards and regulations based on the available data and feedback from the public and agriculture professionals, employing more than 100,000 Americans in 4,500 locations around the country ("About the U.S. Department of Agriculture"). The inspection and standard-setting process for produce is a top-down approach informed by farmers and consumers at the grassroots level.

While most consumers know about the USDA because of their food labels attached to meat and poultry items in the grocery store, the USDA also offers quality inspections and

certifications for fruits and vegetables. On this subject of produce standardization policy and procedures, I had the pleasure of speaking with the writer for USDA standards for fruits and vegetables in the United States. This USDA official was professionally trained to be a produce grader and has spent decades researching, writing, and working with food standard writing, especially produce. Here are some findings from the interview as well as a summary of the materials on produce grading on the USDA national website.

The USDA grading process for *produce* is completely voluntary and “provide[s] the fruit, vegetable and specialty crop industry with a uniform language for describing the quality and condition of commodities in the marketplace”(“About the Standards”). In contrast to these voluntary processes for fruits and vegetables, USDA grading of meat and poultry is essential since meat quality and safety is impossible to discern behind excess packaging and cuts. While fruits and vegetables are immune from USDA grading unlike some food products, undergoing such a process is wise as it communicates a common standard of quality. Thus, these standards are worth examining since quality grades are widely used as a ‘language’ among traders and can make business transactions easier whether they are local or made over long distances. This common language benefits consumers who want reliably round navel oranges or Idaho potatoes with smooth surfaces in a ShopRite in New Jersey and in a Trader Joe’s in California. The grade labels may reduce a shopper’s anxiety about inconsistency in produce quality, but also result in a more uniform collection of same-graded fruits and vegetables.

The grading procedure for produce is long and thorough. The USDA undertaking involves gathering data for 2 years and conducting extensive research on each specific fruit or vegetable type. USDA standards officials speak with farmers, consumers, and retailers to better

determine what produce will sell and which standards would be important to implement.

Officials also form consumer groups for feedback on produce quality and visit farmers throughout the United States for conversations about their growing and harvesting results. After the extensive research process is complete, the USDA writes the standards to provide guidance for the food inspectors to follow in the grading process. While most fruits and vegetables sold in grocery stores have standards, not all do. For example, there is currently no USDA standard for bananas.

For interviews and feedback, the USDA official may ask a variety of questions when approached to develop or revise a standard, including some of the following. Of course, these are not all-inclusive and vary and are highly dependent on the situation.

1. Who do you represent? (farmers, packers, shippers, wholesalers, retailers, consumers...)
2. Who supports you in this request? (farmers, packers, shippers, wholesalers, retailers, consumers...)
3. What is the nature of/reason for the development/revision and how will this positively impact the marketing of the commodity?
4. How much research have you done to show a revision/new standard is necessary for the marketing of the commodity and can you provide me with this information?
5. What do you hope to accomplish with the development or revision of a standard? (USDA Standard Writer).

After these inquiries are answered, the USDA official determines their suitability for the USDA grading process. Not all requests are entertained. For example, a request from one individual shipper, wholesaler, or farmer who has not indicated a need for revision does not undergo the process. Once a fruit is fully inspected and considered safe to distribute—meaning it is free of mold, salmonella, excess bacteria, rotting—the produce is graded according to qualifications procured by the USDA writer. Each produce item has its own set of standards and

terminology to work from. On their website, the USDA provides an in-depth code system for the majority of fruits and vegetables sold in the country, along with visual aids to accompany each standard. For example, apples can be graded by the USDA in five ways according to their value: U.S. extra fancy, U.S. fancy, U.S. No.1, U.S. utility, and combination grades. Apples that are U.S. extra fancy are the most aesthetically appealing and deemed the highest quality of all apples. According to the “U.S. Standards for Grades of Apples,” U.S. Extra Fancy are apples:

... of one variety (except when more than one variety is printed on the container) which are mature but not overripe, clean, fairly well formed, free from decay, internal browning, internal breakdown, soft scald, scab, freezing injury, visible water core, and broken skins. The apples are also free from injury caused by bruises, brown surface discoloration, smooth net-like russetting, sunburn or sprayburn, limb rubs, hail, drought spots, scars, disease, insects, or other means... (USDA Grades and Standards—Apples)

The other grades are listed in order with each subsequent one lesser in quality. While some of these standards refer to the internal quality of the apples, other specified terms refer exclusively to how the apple looks. Aesthetically-focused terminology for the U.S. Fancy apple include, “Fairly well formed,” without “bruises,” without “brown surface discoloration,” and lacking “sunburn or sprayburn,” “scars,” and other forms of non-penetrating external damage to the skin (USDA Apple Standards). “Fairly well formed” is a vague, yet significant phrase which “means that the apple may be slightly abnormal in shape but not to an extent which detracts materially from its appearance” (Ibid). Thus, a wonky apple with the top and bottom significantly unaligned would render the apple not U.S. Extra Fancy, but a lower category, since it may “detract... from its appearance” (Ibid).

The apple’s saturation of color is also an integral determinant of the fruit’s grade. While “faded brown stripes shall not be considered as color,” (Ibid) other slight differences in shades of

red are permissible for grading, but not preferred for the higher quality grades (U.S. Extra Fancy and U.S. Fancy). For the principal determined color, the percentage refers to the area of the “surface which must be covered with a good shade of solid [color] characteristic of the variety” (Ibid). For example, for a Red Delicious apple to be graded U.S. Fancy, 40 percent of the surface of the apple must be colored with the characteristic red, while U.S. No. 1 Red Delicious apples only needs to be covered 25 percent with the red. U.S. Extra Fancy Red Delicious Apples require a higher percentage of red coverage at 66 percent or greater. See the table below of coloration standards for other apple varieties.

Variety	U.S. Extra Fancy (Percent)	U.S. Fancy (Percent)	U.S. No. 1 (Percent)
Red Delicious	66	40	25
Red Rome	66	40	25
Empire	66	40	25
Idared	66	40	25
Winesap	66	40	25
Jonathan	66	40	25
Stayman	50	33	25
McIntosh	50	33	25
Cortland	50	33	25
Rome Beauty	50	33	25
Delicious	50	33	25
York	50	33	25

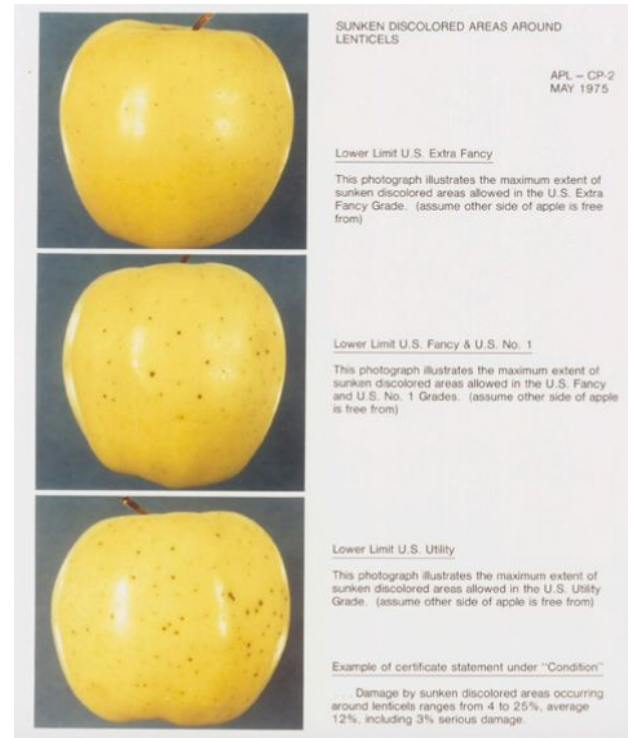
¹ Variations on varietal designations listed above must meet or exceed those color requirements listed.

Figure 5: Coloration percentage standards for different apple types. Source: USDA (Apples).

To better illustrate these aesthetic ideals, the USDA also provides visual aids to accompany the descriptors in each grade of a fruit or vegetable. Here is an example of one such aid for apples with a varying severity of discoloration and number of brown spots. The image to the right depicts the outward appearance of a single apple variety of three grade levels: U.S. Extra Fancy, U.S. Fancy & U.S. No. 1, and U.S. Utility.

Figure 6: USDA visual guide for apple spots by grade.

Source: USDA (Apples).



Comparing these three graded apples, they seem strikingly similar in condition, shape, and cosmetic appeal—except for a slight increase in the number of brown spots for the lower two grades of apples. The higher the grade, the more the USDA is concerned with appearance—even for barely visible blemishes.

For potatoes, a vegetable variety especially prone to damage, there are only three grades—U.S. No. 1, U.S. Commercial, and U.S. No. 2. A U.S. Grade 1 potato is clean and shapely; a Grade 2, or “utility” grade, not “seriously” misshapen and not damaged by dirt, is better transformed in soups or mashed potatoes.” (Diamond 1987) Similar to the apple grading descriptors for Fancy apples, U.S. No. 1 potatoes, according to the USDA Grades and Standards for potatoes are heavily based on outer appeal and the absence of harmless fungal and other ugly but otherwise safe potato conditions.

The standards for U.S. potatoes are the follow set of criteria:

- a. Similar varietal characteristics, except when designated as a mixed or specialty pack;
- b. Firm;
- c. Fairly clean;
- d. Fairly well shaped;
- e. Free from:
 - 1. Freezing;
 - 2. Blackheart;
 - 3. Late blight, southern bacterial wilt and ring rot; and,
 - 4. Soft rot and wet breakdown.
- f. Free from damage by any other cause.
- g. Size. Not less than 1-7/8 inches in diameter, unless otherwise specified in connection with the grade (“USDA Standards for Potatoes”)

While the USDA grading method is helpful for demonstrating consistency in quality and involves conversations between consumers, and farmers, and USDA officials, these standards may be contributing to high public cosmetic standards, and by extension, greater food waste. By grading produce, there are winning qualities attached to some Extra Fancy apples and losing qualities attached to Utility grade apples. Some retailers, wanting the best quality for their customers, may opt for only higher-grade produce. In addition, “farmers are more likely to leave unharvested or cull less perfect produce that will receive a lower grade, since its value in the market is diminished” (Kenny 2018). Lastly, the standards may also cause farmers to breed tomatoes for uniform appearance over other factors, such as taste or nutrition. Taste and nutrition are important to many consumers but current USDA standards do not provide any judgments in these areas. For tomatoes, many highly-graded tomatoes lack flavorfulness and nutritional content consumers desire in a tomato. Today’s tomatoes even contain less calcium, vitamin C, thiamin, and niacin, and more sodium, than they did 60 years ago (Estabrook).

To summarize what we have seen of standards so far: The USDA guidelines help to separate fruits and vegetables into grades based on visible qualities such as size and color and often exist almost entirely separate from internal quality. Farmers farm crops with these standards in mind, large volume retailers aspire to maintain only the highest classes, and

customers have come to adopt their own personal high standards based on what they typically see. Ultimately, the public makes the final decision to purchase or not purchase produce based on the visuals they prefer. They are the ones to reject what they deem undesirable for eating. Still there is hope that through marketing campaigns which promote fruits from a wide spectrum of visual appeal, more produce could be enjoyed without discrimination.

Marketing Produces Change: The Case of the Blackberry

Marketing matters in casting a vision for what fruits and vegetables should look like and which types are preferred and widely-available. To shape American produce conceptions, the ones who set the standards at the USDA also work with marketing agencies to tell a fruit or vegetable's story. For example, marketing transformed blackberry sales awhile back.

Blackberries are prone to red drupelets—the individual constituents of the full fruit. Due to marketing campaigns a few decades ago, only images of completely black blackberries without the red drupelets existed. Thus, most Americans thought blackberries should be completely black in color, or else they were unhealthy or unsafe to consume (see Fig. 7).



Figure 7: Representative photo of blackberries decades ago → Figure 8: Blackberries today.

This perception changed when USDA partnered with marketers of the fruit nationally to begin photographing blackberries with the phenomenon of red cell regression (see Fig. 8). Now, sales for blackberries with red cell regression have increased nationally. This anecdote demonstrates how common conceptions of fruits are formed by visual marketing cues, and can be purposely shifted to represent a greater diversity of fruit versions, more diversity than we currently see in the retail and media spheres.

In this chapter, we reckoned with the reality that to sell produce effectively today, appearances matter more than they did fifty years ago. Cultural glorification of good-looking food curated through staging and photography has molded consumer produce purchases and future expectations. These ideas about the cosmetic nature of produce are perpetuated by farmers, field workers, retailers, and consumers alike. We also saw how USDA standards and the accompanying visuals only help to solidify aesthetic standards and shape conceptions of what food is considered beautiful enough to buy. These USDA descriptions and images provide paragons of produce for retailers to aim to purchase and sell at supermarkets. These optional standards help to set expectations higher than what is healthy.

To combat these narratives and expectations for produce, ugly produce companies around the nation have employed strategic marketing techniques to encourage thousands of Americans to eat uglier. Through endearing photographs, a strong social media presence, and graphically-designed boxes and websites they have responded to a visual culture by adding *different* visuals than most consumers see at the grocery store or on television. The following chapter delves into the companies and campaigns which succeeded largely through compelling marketing. Similar to the success of the USDA in rebranding blackberries, they demonstrate that

previously held public stereotypes of cosmetically imperfect can be ruthlessly readjusted through relevant and eye-catching content.

Chapter 3: Ugly Food Companies & Campaigns

In this chapter, we will finally introduce the Ugly Food Movement—a food trend which sprouted from the seeds of the food waste crisis as well as dangerously high beauty standards for produce outlined in the last two chapters. Here we will situate the rise of the commodification of ugly produce within its historical, cultural, and economic context. Starting with a brief discussion of the movement’s origins, we will then meet the campaigns and social enterprise organizations which make up the movement and have rebranded ugly produce to address the problems of food waste and inaccessibility. Whether or not they have successfully met these goals or can ever be a truly effective food system solution is still widely debated. We will also witness the movement’s millennial focus and online grocery delivery services to help explain its effectiveness in reaching and serving so many. This chapter demonstrates that the Ugly Food Movement exists in its unique positionality in the modern marketplace.

While there is no exact start date, the Ugly Food Movement probably started around 2015 when the United Nations General Assembly adopted a set of 17 Sustainable Development Goals (SDG). Under SDG number 12, they collectively sought to “ensure sustainable consumption and production patterns.” Within the third target of this goal (Target 12.3), the UN stated a more specific resolve to, “by 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.” From this resolve, Europe launched the year against food waste and the USDA also championed efforts to reduce waste and promote sustainable agriculture practices. Also around that time in the United States, ugly produce start-ups such as Hungry Harvest and Imperfect Produce, and campaigns such as Inglorious Fruits and Vegetables sprang up for the first time.

Campaigns

The European Union declared 2014 to be the year against food waste. During that same year, one of the first ugly food campaigns took place in France, where imperfect fruits and vegetables account for 40 percent of the nation's food waste in 2014 (Barrow). Intermarche, one of the largest supermarket chains in France, launched their campaign called Inglorious Fruits & Vegetables which promoted “failed lemons,” “ugly carrots,” and “grotesque apples.” Their ads are attractive and cute: “A hideous orange makes beautiful juice,” professes an Inglorious Fruits and Vegetables ad. Here is an example of one of their advertisements translated to English:



Figure 9: *Inglorious Fruits & Vegetables ad. Source: Intermarche Advertisements.*

To effectively sell these inglorious produce, Intermarche decided to mark the produce down by 30 percent (Godoy). Additionally, they also intentionally included imperfect produce in prepared dishes including soups, shakes, and salads within the stores. Thus, this campaign was

timely and necessary as a means of tackling this pressing issue. In fact, it was so successful that Inglorious fruits and vegetables are now being offered at all 1,800 Intermarche stores in France and throughout other parts of Europe—one of the first campaigns of its kind to succeed so wildly. The campaign paid off, the store reported a 24 percent increase in overall store traffic and popular demand has ensured the continued selling of inglorious items within their 1,800 stores (Ibid). Since then, other stores and nations have followed suit in the marketing of previously unmarketable fruits and vegetables. Soon, companies, campaigns, and consumer awareness around the issue increased the popularity of ugly fruits and vegetables next in the United States.

In the United States, Jordan Figueiredo started the Ugly Fruit and Veg Campaign in Oakland, California, around the same time France launched Inglorious. Jordan jump-started the campaign after co-chairing the Zero Food Waste Forum and managing an anti-hunger initiative called Feeding the 5000 Oakland in 2014. In order to highlight the “20-40% of all the produce that goes to waste due to strict grocer cosmetic standards,” the campaign posts “beautiful and amazing images of less than perfect produce” (“EndFoodWaste”) on Twitter, Facebook, and Instagram. They reach millions of people and have already accrued 41.1 thousand followers on Instagram, almost 100 thousand likes on Twitter, and more than 30,000 likes on Facebook. Interviews with Figueiredo have even been featured on news outlets including the TODAY Show, NPR, Huffington Post, The Los Angeles Times, The Wall Street Journal and others.

The Campaign’s reach has extended beyond the intrigued foodie or food waste-conscious consumer—major food stores Whole Foods and Walmart agreed to petition to sell ugly produce. Here are three examples of the images of produce highlighted in the campaign:



Figures 10, 11 & 12: Ugly Fruit & Veg Campaign. Source: Ugly Fruit & Veg Twitter, Instagram.

As evidenced by the images above, the campaign capitalizes upon cuteness by anthropomorphizing various fruits and vegetables. The posted produce often resembles humans or animals to appeal to the viewer's emotional sensitivities and familial values. The most liked posts usually incorporate smiling faces naturally embedded in the fruit's flesh or form (the tomato face above is an example) or human-like postures highlighted in the "family" of carrots embracing above. The carrot photo with the caption, "Group hugs to the new year! #HappyNewYear y'all!" was liked 828 times, while the tomato image scored 1,620 likes on Instagram along with its caption, "Tomato is worried that people don't know that 42% of human-caused climate-polluting emissions come from our stuff..." The tomato has emotional capacity as it is "*worried*" about pollution and climate change, much like a concerned citizen. On the opposite side of the emotional spectrum, the carrot celebrates the new year along with the billions of people doing the same.

Grocery stores are also starting to promote ugly produce through their own chain-wide campaigns. Giant Eagle, the supermarket chain with stores in Pennsylvania, West Virginia, Indiana, Maryland, and Ohio, kicked off its “Produce with Personality” pilot campaign in 2016. Giant Eagle was the first major grocery store to sell uglies in the United States. The Produce with Personality offered ugly fruits and vegetables at 20 to 25 percent below full price, which echoes the strategy used in France. Since “20 percent of the food that comes through the doors at Giant Eagle ends up wasted” (Delano 2016) this was an attractive campaign both for discount shoppers frequenting the store and for the supermarket’s bottom line at the end of the fiscal year. The initiative focused on “navel oranges, russet potatoes, peppers, and apples” (Figueiredo) as well as “oddly shaped or discolored potatoes, peppers, oranges, and apples” (Delano).

Donavan, the marketing director of Giant Eagle, reported that the “Produce with Personality” campaign seemed to be as successful as other major grocery stores in Canada that sold uglies, including Safeway, IGA, and Loblaws. As one of the first American grocery stores to pilot the program, Giant Eagle also marketed in a way that convinced store shoppers that taste and inner quality trumps external imperfections. Besides, curlicue cucumbers and tomatoes decorated with sunspots are not only cast as cute characters, but as cheap ones too.

Besides the existence of ugly food initiatives in grocery stores, for-profit ugly food companies such as Misfits Market also feature compelling ads on Facebook and Instagram, sometimes featuring animals or faces with googly eyes. In fact, my first introduction to the Ugly Food Movement was through numerous advertisements on my social media news feeds, and friends who have ordered. Misfits and Imperfect Foods have reached people nationally through their robust ad campaigns and attractive graphic designs.

Produce Positioning Matters

One study in 2016 in Scandinavia by de Hooze et al. found that “the essential factor for the potential long-term success of suboptimal products would be the consumer's preferences” (de Hooze et al.). From previous research, de Hooze et al. maintained that supply chains are principally concerned about delivering popular products to customers. Since only 25% of customers choose to purchase suboptimal products and the majority of these people were young, it is safely assumed that ugly products are not worth selling unless brilliantly branded. Exposure to suboptimal food increases a consumer's willingness to purchase ugly. Therefore, campaigns aimed at reducing food waste from suboptimal foods in households may be successful in “focusing on consumers' commitment to environmental sustainability or on shopping and cooking habits.” They imply that the future of selling imperfect produce is reliant on ingenious marketing campaigns, discounts, and strategic positioning. Ugly food companies are committed to selling high quality products from this niche market, for cheap.

Discount pricing motivates consumers to buy suboptimal produce. De Hooze et al.'s research confirms that consumers need to be externally motivated to buy suboptimal products or they will not. The results from the study “indicate that consumers seem to be sensitive to discounts on suboptimal products, and that the majority of consumers are willing to purchase any type of suboptimal product when a discount is given.” Therefore, it is possible to incentivize consumers to buy suboptimal food through discounts.

Van Giesen and de Hooze found that two types of marketing, “sustainability” and “authenticity positioning” can “generate higher purchase intentions for suboptimal products compared to price discounts” (de Hooze et al). Sustainability positioning is a way of raising

consumer awareness around food waste and other sustainability issues in the food system. This strategic positioning provides an additional extrinsic incentive to buy an ugly food for the greater good—food waste reduction, a healthier planet, or a positive environmental impact. “Many consumers... expect food labelling to be informative about the environmental and social sustainability aspects related to the product...” (Caputo et al. 2013). Their research suggests that when consumers are aware of the carbon footprint of bread, for example, shoppers tend to buy the bread brand with the lesser footprint. Additionally, when people are reminded that buying suboptimal foods reduces food waste, consumers are more likely to purchase those foods.

While sustainability positioning provides branding and moralistic reasons to buy suboptimal products, authenticity positioning increases the consumer’s perceptions of the product’s intrinsic value, therefore “highlight[ing] the product’s genuineness, origin, or naturalness” (Ibid). This marketing strategy promotes angular asparagus as more realistic than perfectly-straight asparagus, and in doing so, attaches a higher moral and environmental value to the ugly stalk than those in higher demand. Altogether, these findings highlight the power of strategic marketing and selling ugly produce effectively. Without clearly articulated benefits of suboptimal products through sustainability and authenticity positioning, consumers continue to choose the more visually attractive items. However when informed about where “food is produced, who benefits from their purchases (ie local versus distant producers), where it comes from and how its transportation impacts on the environment” (Ibid) consumers choose the more sustainable items. In revaluing ugly fruits and vegetables through campaigns and labeling, shoppers select suboptimal products more frequently and enthusiastically than before. This is where ugly food startups succeed.

Ugly Food Startups

Venture capital-backed companies such as Popular Misfits Market, Imperfect Foods and Hungry Harvest now famously sell these waste-prone fruits and vegetables to customers in Community Supported Agriculture (CSA)-style boxes. Through their presence online and boxes with compelling sayings on the sides which tout their mission, they convince their customers that buying their imperfect food is environmentally and socially smart. As a group of startups aimed at accomplishing similar goals, these companies have rewritten the story of ugly food. Through strategic marketing and a growing clientele, these companies are attractive to anyone trying to buy on a budget, reduce food waste, and lessen food insecurity. Today, thousands of enthusiastic consumers purchase boxes of hilariously imperfect produce weekly, believing they are contributing to the healing of a broken food system through regular purchasing. These boxes also promise to save shoppers time in the grocery store and money.

Since these companies sell goods and services to gain income, they are also businesses who care about their financial bottom line. Thus, these startups can be categorized as *social enterprises*, companies which “sell goods or services to obtain at least some of their income; carry out activities that are socially or environmentally beneficial; write their governing documents in a way that makes clear the social intent behind the business (to benefit people and/or the environment)” (Fitzhugh & Stevenson 5). Social and environmental motivations drive the startups described in greater detail below, but financial flourishing still matters the most. For these enterprises, “the social purpose is their reason for being and a business approach is the means of delivering that” (Ibid). Ugly food startups surely fit in this category and are popular because they do.

In 2015, Ben Simon, Benjamin Chesler, and Ron Clark co-founded Imperfect Produce—now called Imperfect Foods—in San Francisco, California. Imperfect Foods was the first ugly startup and is considered the most established. Today, the company has more than 200,000 subscribers in 25 American cities (Kavilnaz 2019). Imperfect Foods is the most popular and well recognized ugly food company, and loyal customers value their services and can purchase the boxes ranging from \$12 to \$40, as well as customize the contents. On the side of an Imperfect Foods box two conjoined carrots hug under the sweet words, “We grew up together.” Imperfect Foods prides itself on being cost effective, environmentally friendly, and convenient. Similar to other ugly food for-profits, the company sells produce for 30 percent less than conventional prices at grocery stores, making it a major draw for health- and budget-conscious shoppers.

Imperfect Foods mainly sources produce from medium to large scale farms because of the sheer volume that they are able to provide, which small farms do not. This makes sense since middle and large farming operations waste more because they grow more produce in the first place. Imperfect sees CSA as an ideal way for small farms to reach their immediate community, and not have to go through Imperfect. Since their supply chain is smaller, Imperfect focuses on filling the gaps of the supply chain from the farm to consumer for those larger operations which have the most production gaps to fill. However, they fail to reach smaller, local farmers which could benefit from their services due to smaller volumes of resellable produce.

On the opposite coast, another ugly food contemporary was founded. Misfits Market was created in Philadelphia in 2018 by Abhi Ramesh. He decided to start the company after apple-picking with his friends when he noticed that many perfectly good but bruised apples had

fallen to the orchard floor. When he asked what would happen to those apples, “he was told that some would be used for cider and some fed to pigs. Some could probably be sold, but many might go to waste” (Sodergren). This inspired him to start an ugly food company which now reaches thousands of customers on the East Coast. Since launching in 2018, they have sent out more than 5 million pounds of produce that would have gone to waste otherwise.

To see what one Misfits customer thought of their services, I interviewed a student who used to regularly order ugly produce from Misfits Market. She initially heard of Misfits through a friend, and thought it would be a good idea to order one because she “would save money and time and help the environment” (Misfits Market Customer). While she loved the boxes initially, she had to eventually cancel because they sent her too much food. She could not eat everything Misfits delivered—the items rescued to reduce food waste ended up in the trash anyway. Additionally, her boxes were not only filled with fruits and vegetables, but an excess of packaging and plastic which filled her recycling and trash bins each week. This struck her as a clear disconnect between the company’s mission to create environmentally sustainable solutions and the way they were carrying it out. Otherwise, she reported a positive experience, but does not think it is a sustainable service for one person.

Besides Misfits and Imperfect Foods, there are a few other entrepreneurial ventures doing similar work, including Hungry Harvest. Hungry Harvest—another social enterprise rebranding uglies—started as an entrepreneurial venture on *Shark Tank*, a television program where budding entrepreneurs pitch their ideas to a panel of rich investors, called Sharks. After presenting his vision for ugly produce to potential partners, Evan Lutz enthusiastically accepted financial backing offered by the Sharks. Since his appearance on the show in 2016, Lutz has expanded his

Baltimore-based, college-conceived ugly food business. Now Hungry Harvest boxes are delivered to cities across the nation. Similar to Misfits, Hungry Harvest delivers “food on a mission.” Unlike others, however, Hungry Harvest partners closely with hunger-solving organizations in the community including churches, food banks, and food rescue non-profits. They also offer government-subsidized Supplement Nutrition Assistance Program (SNAP) benefits for customers who use them.

Under Hungry Harvest’s “Our Mission” tab on the website, there are two concepts listed, “Eliminating Food Waste” and “Ending Hunger.” They are aiming to reduce food waste and increase food accessibility to fresh foods. Already, they have rescued over 15 million pounds of food from going to waste. Additionally, they have provided access to over 1 million pounds of fruits and veggies to those who are food insecure. In order to combat hunger with the conviction that “nutritious food is a right, not a privilege,” Hungry Harvest “closes gaps in food access by supporting... reduced-cost Produce in SNAP Markets & donations to local hunger-solving organizations.” To date, they have provided access to almost “340,000 pounds of affordable produce & donated over 660,000 pounds more to [their] donation partners!” according to their website.

One ugly food customer in the Washington DC metropolitan area orders a Hungry Harvest ugly box each week, and is quite satisfied with her experience as a committed customer for the past year and a half. One thing she enjoys about her Harvest boxes is the amalgamation of goods which challenges her to cook difficult cuisines and dishes based on the current harvest. This customer also enjoys the affordability and mission of Hungry Harvest, being a recent graduate from college living in an expensive city, as well as a waste-averse environmentalist

who values the rescue of “fresh & delicious produce whose only crime is being a little off-size, off-color, a little ugly or a little overproduced” (“Eliminating Food Waste”).

Hungry Harvest is not without critiques, she noted. She mentioned the potential environmental impact of receiving more food than she can consume each week. Household waste is particularly a problem when items of the same variety ripen all at the same time—too quickly to eat at home. Recently, her household received a box of “5 avocados, but they all ripened the same day” so they had to “throw out half the fruit because it was overripe and brown” (Hungry Harvest Customer). However, when she purchases her own avocados, she would “purposefully buy only a few, or buy one that’s close to ripening and one that’s not, to kind of stagger it” (Ibid). Still, besides the occasional overload of avocados and mistakes in an order, the customer mentioned that the “customer service is great” and that the mission of the company makes up for its minor errors. As someone who prefers making homemade meals over going out to eat, these boxes have provided produce to be integrated into daily meals. Altogether, she sums up her positive experience with Hungry Harvest, “I like that the prices for organic produce are cheaper than my local grocery store, the fun of trying new vegetables and fruit I don’t normally buy, and the feel good mission of the company” (Ibid).

Moving to the Midwest, Perfectly Imperfect is a Cleveland-based company started in May of 2016. Unlike the other enterprises, however, Perfectly Imperfect developed out of the Northeast Ohio produce wholesaler Forest City Weingart as a means of tackling food insecurity in their local food desert community. Forest City Weingart is located in a low-income section of Cleveland where almost 70 percent of households use food stamps and the median household income was \$9,646 from 2010 to 2014. Started informally by Ashley and Andy Weingart, the

company was soon nationally recognized by *Cooking Light* magazine and the *Huffington Post*. Since 2016, the company has rescued more than a million pounds of produce and fed nearly 100,000 local residents in Northeastern Ohio. With the tagline, “Let’s Rethink Perfect,” Perfectly Imperfect is retelling the story people too often buy about ugly foods. Moreover, their efforts extend beyond selling boxes; they also donate to local shelters and pantries. For every box purchased, they donate one box of fresh produce to local food pantries to distribute to food insecure residents.

Throughout the nation, entrepreneurs are casting ugly produce as desirable goods. Two entrepreneurs in the San Francisco Bay area, Kayla and David, created a venture called the Ugly Pickle Company to address the cucumber waste dilemma she witnessed regularly at Farmer’s Markets. Through compelling marketing, Ugly Pickle Company has achieved success in reaching her local Bay community and effectively selling her pickles both online and in person. On the website are graphically designed cartoons along with pithy lines under subsection related to the company’s target impact on farmers, the ecosystem, and consumers—sustainability positioning, accessibility to information and pickles, and compelling media use at its finest.

Similar to locally-based Perfectly Imperfect, the Ugly Pickle Company in San Francisco, California, is another startup selling ugly fruits and vegetables targeted at reaching the local community. At Bay area markets, you can purchase Ugly Pickle Co. “Bread ‘N’ Buttah” “Carrot Top Chimi” and other varieties which are: “Plant Based! Gluten Free! Fat Free! Way Snappy! Real Ugly! Waste Fighting! Tasty as Heck!” Ugly Pickle Co. fosters societal values of growing importance for environmental sustainability, transparency about products, and ready accessibility to fresh foods. Ugly Pickle Co. is a brilliantly millennial website with bright shades of green and

blue with graphically-designed cartoons enticing customers to eat ugly. With its fun phrasing, vibrant colors, and endearing pickles, the Ugly Pickle Co. is selling ugly cucumbers year-round to its enthusiastic customers.

Lastly, FruitCycle is a Northern-Virginia based snack line of dried fruits and chips addressing this problem founded in 2014. Today, FruitCycle has morphed into Together We Bake, a nonprofit aimed at giving women workforce experience and training in food preparation. The founder, Elizabeth Bennett, created the concept after seeing the sheer volume of perfectly good peaches left to rot at a pick-your-own peach orchard in Virginia. In the first year, FruitCycle saved over 14,000 pounds of apples and produced products such as cinnamon apple chips, seasoned kale chips and strawberry-jalapeno syrup all from ‘second-hand’ produce inspired by the waste she witnessed. From that point forward, Bennett worked with small, local farms and took bruised or wonky produce no one would pick from the tree or select at a store. Despite the wide range of prepared foods at one apple orchard their prepared apple products—apple pie, apple butter, and cider—they still had unsellable leftovers. Therefore, her snacks were the sustainable solution to the problem of waste and the jobs created were the key to providing vulnerable groups with valuable work skills. Altogether, as evidenced by the diverse array startups listed, each one has its unique aim and set of characteristics—they are not homogeneous, but continue to successfully garner the support of a millennial cohort of buyers and thinkers.

Selling to Millennials

Many of ugly food startups were created by and for millennials—a cohort of individuals born between 1981 and 1996 (ages 23 to 38 in 2019). Millennials are known for their fluency in

the internet, technology, social media, and technological applications. They are digital natives who are adept at new platforms and features. Unsurprisingly, marketing to millennials requires mastery of a unique angle. To effectively captivate millennials, two central themes need to be cast when promoting a brand—location and convenience. Locationally, social media channels like Facebook, Twitter, Instagram and others are where most millennials look for content, branding, and news, and where millennials expect to find company updates and ads.

The second value necessary in millennial marketing is a prioritization of convenience, and along with that, easy accessibility. Convenience may come in the form of home delivery, user-friendly phone apps, or communication of how long a service will take. Thus, services by companies such as DoorDash, Amazon delivery, Fresh Direct, and ugly produce startups have become widely preferred for their convenience and time-saving home deliveries. Altogether, ugly food companies have flourished because they are delivering what millennials desire in a brand—customizability, convenience through door delivery, and widespread accessibility through social media campaigns and ads.

Moreover, they are also open to interaction with consumers. Misfit Markets, for example, welcomes inquiries and feedback on the received ugly produce box. If any of the goods are damaged, excluded, or poor quality, there are forms to submit. To successfully market today, consumers are called to partner and participate in new branding, which these companies are doing through feedback forms. Customers no longer want to be passive consumers, this generation wants to partner and influence brands they love. This is now called the *participation economy*: a type of economy driven by interaction not mere reaction, personal not grand gestures, and active co-creation instead of passive consumption (Fromm). In the past, consumers

were rarely part of the product development and marketing process. Today, ugly food companies and others depend on consumers for feedback to guide production and branding. They also depend on the constant support of their millennial customer base to influence their efforts.

Surge of Grocery Delivery Services

How do Americans currently shop, and why are ugly food delivery services thriving? The National Household Food Acquisition and Purchase Survey conducted by the Economic Research Service (ERS) branch of the USDA ERS to study this very subject found that “The vast majority of households, 88 percent, use their own vehicle to get to the store where they do their main grocery shopping” (Ploeg et al.). Today only a quarter of Americans shop for groceries online, despite the greater convenience. For consumers surveyed by Bain and Google, “25% of the used an online grocery service in the last year, only 26% of those users, or 6% of all consumers, say they have been placing orders more than once a month” (Ibid). Some possible explanations for this lack of use include unfamiliarity and fear of environmental impact. However, the study also found that despite the fact that although “households are, on average, 2.2 miles from the nearest SNAP-authorized supermarket or supercenter... their usual store is 3.8 miles away” (Ibid). This demonstrates that households do not necessarily shop at their closest grocery center, but tend to travel further to their preferred store. These farther grocery store preferences contribute to overall higher food miles and greater volumes of greenhouse gases in the atmosphere. While delivery is still not more popular than in-person shopping, ugly food services are becoming increasingly desirable to modern, eco-friendly shoppers.

While most consumers assume convenience comes at deep environmental costs, many studies suggest that these delivery services may actually reduce carbon emissions compared to

driving for groceries. Punakivi “concluded that travel savings per shopping load could be substantial (50–70%) if a switch to home delivery is made, and that greenhouse gas emissions (from transport) could be reduced by between 17.7% and 87.2%.” Moreover, University of Washington engineers have found that using a grocery delivery service can cut “carbon dioxide emissions by at least half when compared with individual household trips to the store.” This is because “Trucks filled to capacity that deliver to customers clustered in neighborhoods produced the most savings in carbon dioxide emissions” (Ma). Below is an illustration of why this makes sense. The delivery truck distributes the items in a more centralized, efficient manner than individual consumers who each travel to the store independently, and may make multiple trips.

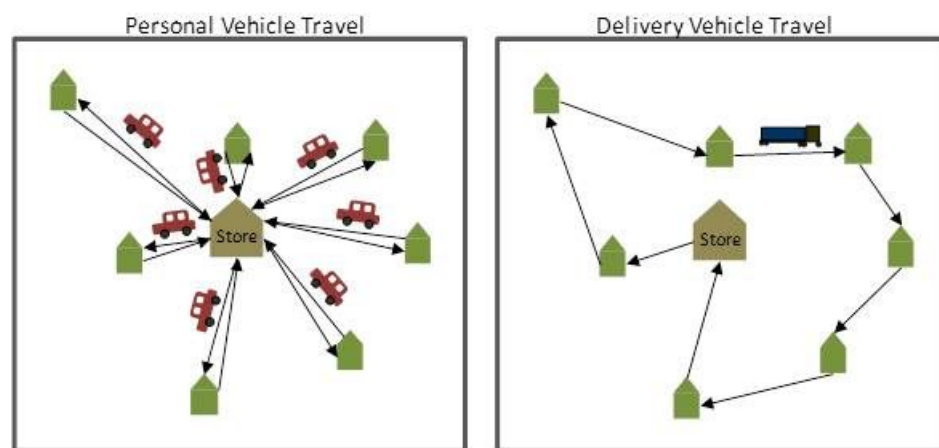


Figure 13: Personal Vehicle Travel vs. Delivery Travel Routes. Source: Goodchild/Wygonik.

Coley, Howard, & Winter (2008) investigated the kilometres necessary to negate the benefit in carbon for shopping organic in the United Kingdom. They found that:

If a customer drives a round-trip distance of more than 7.4 km [more than 4.5 miles] in order to purchase their organic vegetables, their carbon emissions are likely to be greater than the emissions from the system of cold storage, packing, transport to a regional hub and final transport to customer’s doorstep used by large-scale vegetable box suppliers. All in all, the services that ugly food enterprises provide follow the cultural trend toward online delivery of food. (Coley et al.)

Over the last two decades, there has been a cultural trend toward online delivery of food because of its convenience. Although online grocery shopping is still not the main method used by the majority of America, it is quickly becoming the preferred one. As evidenced by the fact that online grocery shopping services have become widely available through dozens of retailers such as AmazonFresh, FreshDirect, Walmart, and ugly food companies, these services are here to stay. Thus, we have reason to believe the recent surge of ugly food startups with delivery services is well matched to a rise in cultural demand for their goods and services.

As evidenced by the information above, ugly food companies are delivering the attractive goods and services that the public increasingly prefers. Along with other successful organizations doing the same, Hungry Harvest, Imperfect Foods, and others are effectively marketing ugly produce to millennials through compelling campaigns and sustainable positioning. They are also providing environmentally strategic delivery services with varying degrees of success, showing that delivering directly to doors generates less carbon than driving independently to the grocery store. Through this introduction to the key players and positioning, the historical, social, and economic players and platforms of the Ugly Food Movement have been highlighted. In the final chapter, we will look at the Ugly Food Movement in light of local food systems, focusing on the Hudson Valley region. We will also discuss a reflexive, local food system model which addresses some of the limitations of the Ugly Food Movement.

Chapter 4: Embracing Imperfect Food Solutions in the Hudson Valley

Despite its tremendous success endorsing and selling rejected produce, the Ugly Food Movement has fallen short of being a perfect food system solution. It is flawed like the foods it sells. Through increasing traction and growing popularity, Ugly Food corporate efforts may eventually overshadow and push out local solutions, which are also dealing with imperfect foods imperfectly, but are equally important for maintaining healthy communities. In this chapter, I argue that a new, reflexive food system which emphasizes access and diversity should be implemented on both national and local scopes. This dualistic system solution operates within the holistic concept of *reflexive localism*. Reflexive localism is a food framework which emphasizes process over perfection, addresses structural inequalities, and promotes diversity within a food culture. The two hallmarks of reflexivity are pluralism and flexibility. Ultimately, it requires constant cooperation between community efforts and national networks to function best.

It is easy to idealize local food systems or fetishize their quaint qualities, but they are not perfect. The localization of food as a way of farming and consuming is an agrarian concept, as opposed to an industrial or global one, which many small farms operate within. Opposed to nationalized food corporations, such as Congra or General Mills, which have been traditionally demonized, “Agrarians see virtue as coming out of people working in small, local, economic structures that are closely linked to nature” (Berry 291). Wendell Berry is one of such agrarians who writes evocative essays on the subject of agrarian farming and living. Agrarians tend to glimpse at the food system from “an antiglobalist perspective” and “... tend to embrace democratic processes as a way to (re-) create community values and resist the universal,

instrumentalist juggernaut of industrial agriculture” (Ibid). Thus, many agrarians make up this push toward local purchasing, and in doing so, tend to help the environment and make less choosy market purchases. By the same token, local food activism can project a damaging moral superiority and racism when left unchecked. In fact, community food “thrives on a culture of food that has been made white” (Slocum 52). It tends to be economically homogeneous, too. How local food tends to be “produced, packaged, promoted and sold—engages with a white middle class consumer base that tends to be interested in personal health and perhaps in environmental integrity” (Ibid). White and wealthier people tend to dominate organic farmers markets and farm share spaces. Local, organic food solutions are imperfect, and so are national food companies and corporations.

The national ugly food startup space is similarly middle class, white, overwhelmingly metropolitan, and technologically advanced. Ugly food startups lag behind some local efforts in providing access to lower income people with government help. The CEO of Misfits Market, Abhi Ramesh revealed in an interview with the *Atlantic* that “It’s assumed people who end up buying these boxes are wealthier people who want to feel good about saving the environment... They’re older, they’re on fixed incomes” (Chandler). While Misfits Market and other start-ups may be looking for ways to include SNAP into customer deals, they have not yet incorporated these essential benefits for low-income customers across the board. Thus, the cost of these boxes may be a barrier for those who would benefit from fresh produce at reduced rates.

Also, ugly food companies can be geographically inaccessible. Ugly food companies and campaigns have reached many people through social media and advertisements, but they are unable to ship boxes to many zip codes, including areas of the Hudson Valley and New York

State. Therefore, they are physically and spatially inaccessible to some. Also, in being online and selectively available, they have barred a diverse pool of people and places from geographically and virtually reaching their services. Ugly food services are also ideologically inaccessible, and therefore not local.

Hungry Harvest, Imperfect Foods, and Misfits Market are all headquartered in major urban hubs—Baltimore, San Francisco, and Philadelphia, respectively. Many regions in the Midwest, Southeast, and Southwest do not currently have access to ugly produce delivery services. Imperfect services the Northeast, Midwest, and West coasts primarily, while Misfits delivers almost exclusively to the Eastern shoreboard. Hungry Harvest currently offers doorstep delivery throughout Maryland, Washington DC, Virginia, Greater Philadelphia, Southern New Jersey, Northern Delaware, South Florida, The Triangle Area & Charlotte in North Carolina & the Detroit Metro Area.

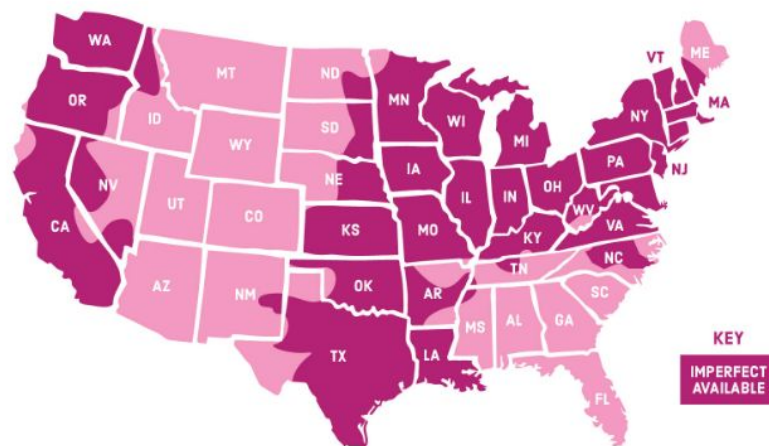


Figure 14: Imperfect Foods available locations around the US. Souce: Imperfect Foods website.



Figure 15: Misfits Market delivery locations around the US. Source: Misfits Market website.

To access their services, customers also need a working phone or laptop to order boxes as well as functional wifi. This is a privilege not every American is afforded, especially in lower income communities or geographically isolated regions. This is true for older demographics as well. Some older Americans (65 years and older) are ill-equipped to use these online platforms, although they might be the very ones who would benefit most from these services. This is all to say, the Ugly Food Movement bars certain people from accessing their services while effectively reaching millennials, whites, and the middle class. To provide a point of contrast for ugly food startups and white-dominated produce spaces, we will now look to the Hudson Valley region to see how food culture is uniquely fashioned to fit community needs. They not only sell differently shaped and colored goods, they embody difference and dialogue as a food system.

The Hudson Valley Food Scape

The Hudson Valley is a New York State region that stretches along the Hudson River from Westchester County to Albany, New York's capital. As a region, it is famous for its vineyards, orchards and farms, including sustainable-food champion Stone Barns Center for

Food and Agriculture. Famed Stone Barns Center for Food & Agriculture offers “a unique farm, dining and educational center in Sleepy Hollow celebrating community-based food production and enjoyment” (“Farm-to-Table”) including a gourmet restaurant which features farm foods and decor. Hyde Park-based Culinary Institute of America also resides in the Hudson Valley in addition to cheese-making operations, dozens of organic farms, and the Poughkeepsie Farm Project. There are also countless orchards, vineyards, and eateries which feature quintessentially Hudson Valley harvests.

As a region, the Hudson Valley is poised to provide a bounty of fresh produce from mostly small and mid-sized farms along the Hudson River. Still, a nationalized food system has been squeezing local farm ownership, making operation in the Valley difficult. Moreover, high prices for land and farm equipment in the increasingly expensive area has led to a dramatic decline in ownership of farmland in the past generation. Nevertheless, the Hudson Valley also possesses a number of strengths which has led to participation in the local food movement: a history of farming traditions, excellent soils for growing, young growers eager to explore farming careers, and proximity to New York City markets and clientele. Many recent college graduates are flocking to farms to start their careers on these pieces of land, eager to make an environmental and social difference through the land they till, crops they cultivate, and fresh foods they distribute. One Vassar College alumna who now farms in the Valley mentioned that being personally involved in her local food community finally provides meaningful work.

In order to glimpse into the lives of these farmers and food workers, I interviewed a few. One farmer based in Hudson, New York (halfway between Albany, NY and Poughkeepsie, NY) ran a small, organic operation and emphasized his ecological methods of farming. Similar to

other organic farmers in the Hudson Valley, he valued the health and quality of the land. He cared about soil health and that bacteria and live organisms existed as vital constituents of a healthy crop rotation. Additionally, his farm did not use herbicides, rarely used pesticides, besides to kill an occasional infestation of worms or beetles.

While many farms of this scale usually ran a community distribution program where locals bought a share of the harvest every season, this particular farmer brought his produce downstate to New York City markets where consumers cared more about external appearances. The farmer admitted that “consumers down there want the stuff to be perfect” (Organic Farmer). In order to combat these urban aesthetic standards generated by years of buying perfect-looking varieties of the same goods, conversation with the customer about quality versus aesthetic appeal is vital to successfully selling his produce. Thus, he regularly educates his customers, and distinguishes a fruit’s appearance from quality. In these metropolitan venues, this farmer noted that competition is stiffer; potential buyers all eye the best-looking peaches or tomatoes over the strange-looking ones. Metropolitan areas are more aesthetically demanding, which tends to hurt sales. He prefers to sell to his local small town where patrons appreciate his goods.

While this Hudson Valley farmer is still left with unbought fruits and vegetables at the end of a market day, there is not a large enough quantity to benefit from selling to an intermediary ugly food company. The Hudson Valley farm does not produce enough ugly food waste to necessitate selling to alternative markets for redistribution. The leftover, unwanted produce is usually fed to the pigs or other animals instead, while some ugly foods decompose and are transformed into compost for a healthy soil next season. He does not let the small volume of uglies rot in fields, but plows everything back into the soil for enrichment. On these small

farms, it is normal for unsellable fruits including soft melons to be fed to cattle and pigs (Lieber). The need for secondary companies to compensate for losses from ugly fruits and vegetables seemed to be a non-issue for many farmers in the Hudson Valley because they rely on CSA markets instead. Waste is reduced in these small farms because of the CSA model, but also because of agricultural practices which value variety in form and features over uniformity. To them, all food is valued and salvaged unless it is unsafe to eat.

The Original Ugly Food Market: Community-Supported Agriculture

Since the Hudson Valley sits at the forefront of foodie-ness, it would be assumed that farmers would know more about the Ugly Food Movement. But after conversations with Farmer John, workers at Adams Fairacre Farms store in Poughkeepsie, and other small-scale organic farmers and market vendors, it was evident that the movement had not yet left a mark. One produce vendor at the Thursday farmer's market on Raymond Ave. in Poughkeepsie asked for clarification on the topic altogether: "The Ugly Food... what?" (Vendor 1). After digging further, I quickly discovered the CSA as the food model of choice in the Hudson Valley, where many pieces of produce are sold raw as they are, often an amalgamation of fruits in vegetables in cosmetically imperfect condition.

The Hudson Valley is home to over one hundred CSA farming experiences—incredible models of local food distribution and community consumption. In fact, "The CSA movement has been hugely important to bringing sustainable agriculture back to the Hudson Valley... It helps them both grow and thrive" (Zuckerman). For example, the Poughkeepsie Farm Project (PFP) in Poughkeepsie, New York, runs a CSA program that is "a farmer-friendly, community-oriented model centered on the sharing of both the risks of the season, and the bounty" ("CSA"). Today,

they sell fruit and vegetable of shapes and size through shares available for three seasons to hundreds of Hudson Valley residents of all demographics and socioeconomic statuses.

When picking up a share at PFP, shareholders meet farmers from the fields and make friends from the community while collecting parsnips and bok choy. Shareholders also become intimate with the land itself through volunteering to weed, helping to harvest, and getting to collect raspberries or red peppers on the Pick-Your-Own portion of the farm. Throughout the ten weeks of seasonal share, shareholders watch food they farm in the fields become vegetables available for CSA collection just days or hours later. One Friday, a few friends volunteered to harvest the potatoes, which were collected on Saturday and roasted on Wednesday: farm-to-fork at its finest.

The beauty of CSA lies in its community orientations, not the aesthetics of the fruits and vegetables in each share which tend to vary in visual appeal. For a typical CSA pick-up on a Saturday afternoon, CSA shareholders “will have little choice regarding the specific items (and their aesthetic qualities) that make up [their] basket. Each weekly assortment will be primarily determined by the farmers’ planting decisions, the exigencies of weather, and other factors that determine the relative success (or failure) of the crops” (Thomson & Coskuner-Balli). Thus, there is less room to discriminate against the curvy crop of cucumbers or enormous spinach leaves. It was already paid for, so what shareholders get is what they get—the gigantic, the bent, and all the shades of ugly.

For the extreme uglies, PFP devised an effective system to move them—a free “seconds” pile where shareholders can add extra produce to their share. While ugly produce startups center business around these rejected extras, CSAs typically give these items away for free to

incentivize shareholders to take them. I discovered the seconds pile this past harvest season through Vassar Food Community's CSA share at the Poughkeepsie Farm Project. Every Saturday morning, a few members would hike over to PFP to collect our CSA share: an exciting amalgamation of kale, watermelon radishes, beets, carrots and sweet potatoes in order to incorporate the produce into the club's many culinary creations. Free and still good to eat, that bin became a favorite stockpile of blemished but delicious extras.

The Poughkeepsie Farm Project also contributes to food security by reducing food waste on the farms, especially through the ancient practice of gleaning. At the PFP, organizations such as Cornell Cooperative Extension glean leftover produce from the fields to feed food-insecure families in the greater Poughkeepsie area for free. Free uglies have even been featured in local events. Two years ago, a festival called "Feeding the Hudson Valley" served ugly produce lunch to feed the public and reduce food waste in the community. The event's mission was to "create awareness of food waste," and "local organizations fed hundreds of people with produce that was set to be discarded" (Schutman). Organizations and farms including the Poughkeepsie Farm Project, Dutchess Outreach and the Hudson Valley Regional Council promoted consumption of ugly foods to attendees. At the event, groups and volunteers dished up meals made by ugly produce on a local tourist attraction—the Walkway Over the Hudson—a highly trafficked and public walkway enjoyed by many residents and visitors in the Hudson Valley. They served ratatouille made with imperfect tomatoes, eggplant, zucchini, peppers, yellow squash and other rescued misfits. Hundreds of people attended the event.

Besides reducing waste, some farms also ensure that the cost of a share is not a barrier for community members. PFP accepts SNAP and food stamps to reduce the rate of a seasonal share.

This price reduction helps to alleviate food insecurity in the Poughkeepsie area since, according to research done by an anti-hunger organization working to eliminate food insecurity called Poughkeepsie Plenty, “1 in 4 households in the City of Poughkeepsie are food insecure by USDA standards. This is higher than the national average of 1 in 6. Even more worrisome, 1 in 10 households suffer from severe food insecurity, meaning they often go hungry” (“Food Justice”). PFP is sensitive to the hunger and financial pangs of its local population and is eager to ease the pain of its community. Because they are locally situated both geographically and ideologically, they are able to make these community impacts. If PFP were replaced by a national ugly food company such as Imperfect Foods, they would be less sympathetic to local food needs.

Some worry about the Ugly Food Movement because it seems to take away the integrity of community-based food systems and replaces CSA services. Avid supporters of the CSA and local food system model are concerned about the displacement of community agriculture programs through ugly food startups. Imperfect Foods and Misfits Market ugly-food companies have sparked controversies in food communities nationally, and especially in the Bay Area where Imperfect Foods was founded. Both Phat Beets Produce, an American food justice collective in San Francisco, and Food First contend that the Ugly Produce Movement has troubling consequences for local organizations and CSAs that are threatened by the presence of these for-profit companies. Organic farmer Cadji from Oakland, California saw a “30 percent drop in customers since Imperfect Produce came to Oakland” (Atkin). Phat Beets assert that “Imperfect Produce reflects a trend... that commodifies and gentrifies food waste” (Ibid). The company also works with industrial-scale producers such as Dole to source some of their food.

Some critics say that this can make “these start-ups an ally of exactly the food system that creates waste and hunger in the first place” (Mull). By paying for the waste of large-scale agriculture, some argue that these startups are supporting farms which are highly inefficient, wasteful, environmentally unsustainable, and perpetuating a system that is deeply flawed.

Local food events and CSA programming offer a counterpoint from which to critically examine the Ugly Food Movement. Ugly Food companies must learn from reflexively local food communities to better reduce waste and increase their accessibility. Looking to CSA in the Hudson Valley as a model, these startups could refashion their efforts to meet specific community needs or partner with local organizations that already do so effectively. As for local food organizations and services, they could also learn from ugly food enterprises and increase their social media presence, offer food delivery services to accommodate busy households, and better advertise their goods to the public. Hudson Valley and Poughkeepsie farms rely heavily on word-of-mouth and local schools and libraries. They depend on local coverage by the Poughkeepsie Journal and Vassar College’s Miscellany News campus newspaper, but their reach could be expanded through the implementation of phone apps, aggressive advertising, and the introduction of home delivery. Food organizations in the Hudson Valley could advertise their community programming in addition to their specific food products.

Responding to Imperfection through Reflexive Localism

Instead of these siloed national and local food spheres, a more just food system could be a type of reflexive justice which takes into account community and good food. Since reflexivity is not a set of values, but rather a process by which “people pursue goals while acknowledging the imperfection of their actions,” it will take time to cultivate. It will also require flexibility

since it is not a fixed process “but one that responds to changing circumstances, imperfectly, but with an awareness of the contradictions of the moment” (Staeheli 297). A reflexive perspective on food works within an awareness of the tensions between different definitions of justice, environmental and bodily health, while admitting that both large and local strategies are imperfect and sometimes contradictory. Reflexivity’s emphasis on the process facilitates food justice goals by responding with awareness to the people behind the food process and pooling all resources to address them as adequately as possible.

A new, reflexive local food system could inspire ugly food companies to provide greater access to delivery services in rural Indiana, as well in the heart of Manhattan where different people exist. In doing this, it “could work across differences, and thereby make a difference, for everyone” (302). Just as Hungry Harvest makes space for different ugly foods, there must be space made for different people in the process of making such food. Even urban farms can help to create a geographical space for local food in cities. For example, City Green—eco-center and urban farm in Clifton, New Jersey—was built in the heart of densely populated Northern Jersey and has just five acres of land for “growing healthy cities.” City Green responds reflexively to local food needs through targeted educational workshops and mobile produce markets which benefit the specific population of people in this region of New Jersey.

True reform of our food system requires an emphasis on the people and process behind the food we eat on both local and national scales. Reflexive food localism needs to extend beyond the neat imperfect box deliveries and into the local economy, culture, and social fabric of a community where the locus of food ideology and purchasing decisions are conceived. Both ugly food companies and local food cultures could learn from the other to perfect their limited

models. They must engage in non-competitive dialogue, partnerships, and workshops to glean helpful tools from each other. Local food organizations including PFP and City Green could learn from ugly food startups to better influence culture through a strong virtual presence, large and efficient logistics, and convenient delivery services. Ugly food companies could look to local efforts for community-focused programming which is more diverse and accessible to a wider range of people and places.

Reflexively personal ownership is also important. Agricultural scientist Sarah Taber unpicks the underlying reason for poor food systems as poor personal stewardship. She discusses the severity of household and consumer waste in her article entitled, “Farms aren’t tossing perfectly good produce. You are” (Taber). Taber argues that Ugly Food Movement’s “efforts, however well-intentioned, are misguided [not reflexive] because farmers aren’t the ones wasting the most food... Consumers, restaurants and grocery stores are the ones responsible for the largest percentage of food waste...” (Ibid). She places the onus not on grocery stores or farmers, but individuals who haphazardly throw unwanted foods away. Within a reflexive food framework, consumers would thoughtfully choose to preserve a personal pantry to benefit their local and national food economies, connected to and concerned about the farmers and land involved in growing their food.

Altogether, this chapter argues that while the Ugly Food Movement has benefitted a swath of the population, executed exemplary marketing, and performed effective social outreach, it is limited as a national food initiative. As corporate and capitalist companies, they can bar certain people and places from accessing their services. Local food systems help to more adequately address local needs through CSA programming and events such as “Feeding the

Hudson Valley” where ugly food was featured. Still, local efforts are limited by their smaller scope which reaches less people than Imperfect Foods or Misfits Market. However, through fruitful dialogue and collaboration between local food communities and ugly food efforts, the American food system could become more diverse and accessible in produce and people. More people in the population could enjoy fresh foods no matter their aesthetic state. Through frequent noncompetitive collaboration, imperfection could feed all communities in the nation.

Conclusion

Life is tough for the ugly heirloom tomato. Despite its often superior quality and tomato taste, it is often rejected by consumers with unrealistically high standards for shape and shade. Before the day is done, this tomato might be tossed aside in the family trash bin or left to the hot sun as compost as may did during my City Green internship. Rejection is a common experience for cosmetically challenged produce on the fields, in the markets, and within the household. However, the Ugly Food Movement is a solution-driven food trend which has surged in popularity over the past five years to try to save discriminated tomatoes like this one.

This thesis exposes our increasingly visual culture in which many customers and retailers reject produce on the basis of visual cues and unrealistic expectations influenced by the media. In order to reestablish the value of imperfect produce, ugly food companies and campaigns emerged to promote the fruits and vegetables others ignore. These companies partner with growers and customers to expand access to fresh food at affordable prices, conveniently ship produce boxes to doorsteps, and reduce “ugly” food waste. In the past 5 years, these boxes have become increasingly popular among millennial consumers and young families too rushed to make it to the store.

However, the ripple effects of this millennial movement are far-reaching and complex. Localists and food-justice advocates argue that these profit-based solutions are disingenuous and insufficient. This thesis argued that while none of accomplishments of the ‘ugly’ companies and campaigns are to be diminished, the movement has promised more than it can deliver in neat brown boxes. Altogether, a national ugly food network is not the salvation of the food system,

but it is an excellent tool to be used in tandem with local food solutions all aimed at tackling food waste and inaccessibility through reflexive dialogue and collaboration.

As we saw in Chapters 1 and 2, ugly food initiatives were driven by the national food waste crisis and by severely misguided cultural expectations for how produce should look. These expectations were shaped by USDA standards and narrow depictions of food in the media and literature. The Ugly Food Movement reacts to an increasingly visual culture with high aesthetic expectations through heavy branding and media representations. In Chapter 3, we looked at the chief players of the movement—campaigns such as the Ugly Fruit and Veg campaign and startups who retold the story of deformed and discolored produce through strategic positioning. In Chapter 4, we honed in on local food efforts in the Hudson Valley as a way to critically examine ugly food startup shortcomings and highlight efforts already in place to promote ugly foods, increase community accessibility, and reduce waste. We saw the limitations of its national companies compared to local systems: inability to reach some regions, insensitivity to certain demographics, and ignorance about the specific needs of communities. We witnessed the imperfect power of local CSA programming in successfully filling the role of ugly food storytelling and selling.

Now we venture to the future. Given what we know now, where will more of the public start to embrace ugly foods? Where will the Ugly Food Movement go from here? The future of the Ugly Food Movement might be uncertain, but current circumstances hint that the ugly food industry will continue to thrive. During the time that this thesis is being written, the COVID-19 pandemic is affecting the globe and forcing many residents to shelter-in-place. Because of quarantine mandates, millions are deciding to order food products online to be delivered to their

homes. The coronavirus craze has prompted a large jump in demand for ugly produce, too. Evan Lutz, CEO of Hungry Harvest in Baltimore stated, “We've seen demand increase and we're very, very lucky to be in a position where we have opportunity in front of us” (Babcock 2020). After delivering to everyone who had ordered a box, Hungry Harvest had to set up a waiting list and is already hiring more workers to keep up with the volume of orders. During an unprecedented pandemic, ugly food delivery companies are considered essential businesses.

Other ugly food companies are seeing a similar spike in orders. CEO of Imperfect Foods, Philip Behn, takes note of this and assures clients that the startup can handle it. He said in March 2020 when COVID-19 restrictions started, “Our food supply chain is robust and well-equipped to continue feeding everyone, and our food rescue model helps streamline the process and eliminate waste by getting food directly to consumers’ doors” (“Imperfect Foods”). In response to the surge, Imperfect is hiring 127 operations associates and delivery drivers around Baltimore. With the crisis at hand and future pandemics that may result in similar social isolating measures, ugly food startups will not disappear anytime soon. The Ugly Food Movement has gotten resistance for its venture-capitalism business model and inability to fully tackle food insecurity and food waste. Yet during government-mandated social distancing, these companies are delivering the goods and services people need to be healthy and stay safe. By delivering directly, these workers are helping to safeguard the vulnerable from going to the grocery store where an invisible enemy exists. Just as food will need to grow in its unique direction in the ground or on the vine, the Ugly Food Movement will need to pivot to accommodate the particular needs of the population. It is already doing this masterfully, playing upon the technological and logistical strengths of ugly food startups to help a hungry country survive.

During this same moment, local farmers markets and CSA programs are rallying the community together to meet local food needs with their unique personal touch. Some farms and grocers are making fresh produce available to food insecure families and individuals by lowering the price. For example, PFP has already launched an online farm store CSA pick-up service which provides locals and CSAs members with fresh farm produce on a weekly basis during the crisis, available in bags to pick up. Due to demand, Big Farm Box, Small Farm Box, baby kale mix, kale, parsnips, and arugula are all sold out. Local community members are hungry for fresh and affordable produce when other local markets are unavailable. They are also hungry for continued connection to a local food source they have come to know and trust over the years. The local efforts of PFP and larger-scale efforts of imperfect startups are easing the pain of the pandemic. Together, they are delivering ugly goods in a global crisis. Even before this crisis, both ugly startups and local initiatives were necessary, and now more than ever their full services are essential to feed everyone.

In a perfect world, imperfect produce would be bought and consumed without massive marketing measures or pricing incentives by local organizations or ugly food companies. Local farms would not have to compost or give away seconds for free when margins are tight. Startups would not need to promote undesirable food at all because consumers would simply refuse to reject cosmetically-challenged produce to reduce waste. Binaries between local and national food systems would not exist, but each would collaborate and learn from the other. But alas, we do not live in a perfect world of perfect people with perfect food systems. Therefore, movements need to be invented to move wonky watermelons out of the field and into the family kitchen. These are the measures we need to employ to respond to the limits of imperfection.

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