

One Man's Trash is Another Man's Future

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It was the first day of my year-long adventure with Ms. Young's kindergarten class. I received my volunteer badge, walked through the colorful halls, and met the students. I was greeted by 20 smiling faces who were eager to know who I was, why I was there, and what my favorite story was as a child. I aimed to increase agricultural literacy in urban areas by teaching weekly agriculture lessons to these enthusiastic students. I was privately informed by Ms. Young that some students may be sensitive to discussing food issues because a handful in the class were food insecure. Churchwell Elementary School is a Title I School, indicating at least 40 percent of students receive free or reduced lunch due to their family incomes lying below the poverty line (Malburg). With this in mind, I was astounded to witness so much food being thrown away in the cafeteria. However, I learned Churchwell's food waste was not an uncommon occurrence. On average, schools throughout America waste around \$5 million of edible food each day by throwing it into the trash (Bloom, 2018).

With the figure "nine billion by 2050" engrained in our brains since middle school, it is our generation's responsibility to create a solution for a devastating problem: food waste. Before delving into matters more closely, we must clarify a common misconception pertaining to this issue. Food loss and food waste are often confused with each other but have distinct differences. Food loss refers to loss in the supply chain between the producer and the market. On the other hand, food waste entails the healthy and nutritious items thrown out despite their remaining value (United States Department of Agriculture). In a country with 12.3 percent of its citizens living in food insecure homes, it is preposterous to imagine that more than 40 percent of all food produced in the United States turns into discard (Ohanesian, 2018). The relationship between food waste and food insecurity can no longer be ignored.

A 2010 USDA Economic Research Service analysis revealed that Americans threw away 30 to 40 percent of the nation's food supply. This waste equates to 133 billion pounds of edible food being discarded, worth a staggering \$161 billion (United States Department of Agriculture). Tossing nearly 40 percent of fruits and vegetables, 20 percent of dairy products, and 14 percent of meats wastes not only food and money, but precious resources as well (Conrad et al, 2018). Roughly 45 trillion gallons of fresh water are required to produce the food we simply place in the trash each year (Barclay, 2013). According to the Food and Agriculture Organization of the United Nations, 28 percent of all agricultural land, or 1.4 billion hectares, is used to grow food that will eventually be thrown out (Food and Agriculture Organization of the United Nations). In addition to the misused water and land, 3.3 billion tons of carbon dioxide are being released into the atmosphere each year as unused food rots in landfills (Kirby, 2013). Now facing these facts, we must examine each facet of the matter, from farm to table, to find seemingly minor solutions to a major problem.

Starting at the retail level and working down, food manufacturers and distributors are responsible for 16 percent of food waste in the United States (World Resources Institute, 2017). From the leafy greens that brown too quickly, to misunderstandings about labeling, lots of food waste occurs in restaurants, supermarkets, and processing plants. Though waste at this level is attributed to many factors, including preference, freshness, and profitability, food is thrown away due to one simple word: liability. The Bill Emerson Good Samaritan Food Donation Act was enacted to protect donors from civil and criminal liabilities resulting from food related sickness (Feeding America). This legislation allows companies to donate their food waste to others, providing the donation is made in "good faith" and meets federal labeling and quality requirements. In addition to legal protection, the Environmental Protection Agency is partnering

with the USDA in the “Food Loss and Waste 2030 Champions” program. This program challenges businesses to publicly commit to reducing their food waste by at least 50 percent by 2030. From reducing the overproduction of crops, to converting wasted food to animal feed, the Food Recovery Hierarchy chart, published by the EPA and USDA as part of the program, shows multiple pathways for companies to reduce waste from farm to landfill (United States Department of Agriculture).

After looking at ways to reduce waste from food distribution sites, we must turn our attention to consumer perception and its role in food waste. Major companies, including Walmart, Nestlé, Kellogg, and more than 400 other companies worldwide, make up the Consumer Goods Forum. These businesses have witnessed the lack of understanding of food date labeling (World Resource Institute, 2017). According to National Geographic, 84 percent of Americans admit to throwing food away based on the stamped date on the package (Bloom, 2016). The Consumer Goods Forum has committed to simplifying multiple confusing labels, such as “best buy,” “use by,” and “sell by,” to only two labels by 2020: one label addressing food safety and one label dedicated to food quality (World Resource Institute, 2017). This labeling change will have significant impacts on consumers’ choices to throw away food, as will the way consumers select fresh food to purchase. While Americans spend countless hours selecting the prettiest tomatoes and roundest oranges at the grocery store, ugly produce grown on the same plants as the perfect items selected at the store may be left in the field to rot due to their appearance. Despite no difference in nutritional value, production costs and inputs, or even taste, we have been conditioned to avoid “ugly food.” Imperfect Produce is a company that is actively working to decrease food waste. By shipping fruits and vegetables directly to consumers, Imperfect Produce is finding a way to utilize ugly foods, while saving consumers up to 30

percent on their produce costs (Imperfect Produce). Reshaping consumer perception of fresh fruits and vegetables has never been more crucial.

Finally, we have gone from the store to consumer, and now it's time to go to the dump! Most believe that once food goes to rot in landfills it is too late to reap any benefit. An energy company out of Southington, Connecticut has found a way to utilize food waste as an energy source (Quantum Biopower). Through anaerobic digestion, Quantum Biopower turns wasted foods and other organic materials into a fuel source: biofuel. By accepting unconsumed food, Quantum is making major strides in lessening landfill waste by producing renewable energy (Quantum Biopower). Walt Disney World in Orlando, Florida also utilizes this technology to fuel their parks and resorts. By collecting wasted food from guests and surrounding businesses, Disney's digester magically transforms waste into power for the "Happiest Place on Earth" (Kennedy, 2018). Although this does not entirely eliminate food waste, it is a stride in allowing beneficial use of what would otherwise be waste.

The Food and Agriculture Organization of the United Nations stated that wealthy countries waste 222 million tons of food every year. To give some perspective, Sub-Saharan Africa has a total net food production of 230 million tons of food every year (Food and Agriculture Organization of the United Nations). We are wasting as much food as impoverished countries are struggling to produce. From government support to voluntary universalized date labels, there are many pathways to reducing waste. Changes can be made at the distributor, consumer, and even landfill stages, so we can put this trash talk to bed once and for all. At the beginning of my adventure with the students, I told them my favorite childhood story was *Charlotte's Web*, but my new favorite story is one that ends with the eradication of food waste and food insecurity forever.

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