

## Reducing Farm Food Waste – Ideas for Delaware’s Food and Farming System

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### Issue:

Food waste, defined by Feeding America, “is safe, high-quality food that is thrown away rather than eaten”<sup>i</sup>. In the U.S., food waste occurs every day from consumers/homes, restaurants, grocery stores, food service companies and farms. For several reasons, many being market related factors, food is lost on farms and according to [RTS](#) (Recycle Track Systems), 16% of U.S. food waste comes from farms.<sup>ii</sup> Rubicon, a waste management and recycling company, reported “103 million tons (206 billion pounds) of food waste generated in America in 2017, or according to the United States Department of Agriculture (USDA) between 30-40 percent of the food supply, (USDA).”<sup>iii</sup>

Exacerbating this in 2020, the COVID-19 pandemic created an enormous decline in demand when restaurants and schools closed, and when travel and entertainment activities were suspended. As such, many edible crops were plowed under and for a short period of time, nearly 4 million gallons of milk were dumped per day.<sup>iv</sup> Meat processing facilities experienced a different set of problems – high rates of COVID-19 illnesses created a labor shortage. This had a domino effect on producers who wanted/needed to have their livestock processed and created a retail shortage in poultry, pork and beef products. Farmers were physically, emotionally, and financially challenged during this trying time; watching the food they produced go to waste while also not receiving a paycheck. This briefing paper describes systems that help mitigate food waste and should be considered as potential solutions to preventing food waste in the future.

### Response During Covid – Ideas for the Future

“Pandemic Pivots”<sup>v</sup> were instituted to mitigate food waste. Many farmers sold or donated to food banks, but the cost to transport the product added a burden to the farmer. Many of the products that were wasted were perishable, and could not be eaten, processed, or sold within the short shelf life. USDA initiated a food box program in 2020 and purchased nearly \$3 billion of fresh product.

To learn how a region or community might prevent such food loss and waste occurrences again, we examined other programs and agencies where food waste is successfully being managed through both *prevention and rescue*. Additionally, we investigated alternative uses for wasted food – better referred to as *recycling*.

In an ideal world, nearly all food waste would be prevented. Food waste negatively impacts the environment, farm profits, and consumer’s pocketbooks. [ReFED](#) is, a national nonprofit dedicated to ending food loss and waste across the U.S. food system by advancing data-driven solutions”<sup>vi</sup> and by providing the ReFED Food Waste Solutions Funds to organizations that redistribute and reduce food waste<sup>vii</sup>. They utilize a Theory of Change model to illustrate the impacts they envision and work with their fund recipients to create change. To better understand the issues, ReFED launched a survey and according to their findings, identified that more than \$19 million in funding was needed for the resources necessary to help surveyed providers “enact

new safety measures to protect against COVID-19” and to pivot. According to *ReFED*, throughout the COVID-19 pandemic, many food recovery agencies adapted and implemented new initiatives to rescue healthy food and divert it to those in need.

### **Examples of Projects Dedicated to Reducing Food Waste**

Many non-profit businesses are committed and experienced in utilizing food that might otherwise go wasted. Listed below are examples of food waste prevention and rescue operations.

1. [Tanaka Farms](#) in Irvine, CA - As part of their business model, this farm formed a non-profit (501c3) and was able to provide over 3500 families with free high-quality food boxes during COVID.
2. [Nourish New York – NY State Dept of Ag](#) - Re-routes surplus produce, meat, and dairy from farmers and delivers to local food banks. “This critical program helps people who are food insecure to access the nourishment that they need, while providing a market for farmers to sell their products.”
3. [412 Food Rescue](#) is a non-profit food gleaning organization in Pittsburgh, PA. “We prevent perfectly good food from entering the waste stream by redirecting it to those who are experiencing food insecurity.”<sup>viii</sup> Using smart phone technology, the Pittsburgh area organization mobilizes volunteers, rescues food with 2 trucks and one van, and deliver food to non-profit organizations. “Third-party research from Dr. Catherine Greeno from the University of Pittsburgh’s School of Social Work, modeled after the USDA Food Insecurity survey, shows that we improve food security in 88% of the population we reach.”<sup>ix</sup>
4. [Maryland Food Bank’s Farm to Food Bank Program](#), combines field gleanings, donations and contract growing as a method for the food bank’s nutrition food distribution program. “In its 10 seasons of growing, the Farm to Food Bank Program has been one of our most impactful programs, ensuring that food that may have once gone to waste provides Marylanders with the building blocks needed to live a healthy lifestyle.”<sup>x</sup>. The Maryland Food Bank supports roughly 350 Network Partners statewide that collectively provide nearly 1,450 distribution points with much-needed food for their local communities<sup>xi</sup>.

Food waste that is discarded and sent to landfills rots, and subsequently releases a harmful greenhouse gas called methane. According to a 2017 study conducted by Massachusetts Institute of Technology “22 percent of the municipal solid waste dropped into landfills or incinerators in the U.S. is, in fact, food that could be put to better use through composting and soil enrichment.”<sup>xii</sup> To help prevent the toxic gas process, many businesses have found ways to recycle food waste. Two examples are below.

1. [EnviroFlight](#), a U.S. company that recycles food waste, feeding it to black soldier flies. The end-product are proteins, oil and fertilizer for animals and humans. This protein growing utilizes much less land and fewer inputs than growing traditional protein.

2. [Campbell's Soup Company](#) recycles farm level materials (nutrients) such as carrot tops and tomato stems by incorporating into the soil while increasing soil organic matter.<sup>xiii</sup> Campbell's Soup Company uses EPA's Food Recovery Hierarchy categories to prevent and divert waste. Unusable portions of vegetables and fruits diverted to animal feed, for example potatoes to feed cows, or tomato pomace to make pet food. The company donates millions of dollars of food (which would have gone to waste) to food banks. In Ohio, food processing wastes are piped to the Napoleon anaerobic digester; microbes in the digester convert the food waste to methane, which is burned to produce about 24% of the electricity the processing plant needs. In Camden, NJ, composting cafeteria food is practiced.

Other findings from the ReFed survey showed that for a more stable food system in the future the following should be taken into consideration:

- **Balancing National and Local Solutions** - Food systems are global by nature, but manifest very locally, especially in the last mile of distribution to consumers, whether through food businesses or food donation organizations. Support is needed to both improve efficiency in the global supply chain, but also hyper-locally to ensure distribution to end users, in many cases through community-based organizations.
- **Matching Needs with Available Resources** - We have seen similarities between most urgent needs and resources others have available (e.g. food surplus and food shortages, cold storage and transportation, etc.). Increased connectivity will help these needs and resources to be matched, both on a national and local level.
- **Maintaining Labor within the Food System** - Every sector is experiencing labor and volunteer shortages. It is imperative that labor remains in the food system, as much as operation measures allow, to ensure immediate distribution and long-term sustainability of supply chains.
- **The Future Food System** - While immediate needs require our full attention, as the food system moves toward a future beyond COVID-19, there is a need for purposeful and thoughtful re-evaluation to build in resiliency for future potential crises.

There is much that can be done to identify areas in our local food system where food waste can be reduced. According to *ReFED*, prevention involves a variety of approaches, including but not limited to, addressing over-production; utilizing technology for efficient distribution; and consumer behavior change - encouraging consumers to better manage food<sup>xiv</sup>. Use of new technologies and scientific findings, collaborations across systems and better coordination among food system actors will all play a role in reducing food waste in Delaware and the region.

## **Questions for Consideration in the Future**

Creating resources and policies that support the reduction of food waste as well as increase profitability are key reasons for addressing this issue. Going forward, questions for consideration include the following:

- What risk management tools can growers use to protect their farm income without overproducing crops?
- What type of consumer education can be developed or shared about managing food and wasting less?
- Who are the key food system actors in Delaware and local region that could coordinate reduction in food waste across our region?
- What technology is in place to efficiently distribute food in the region?
- Who are the key players that could re-evaluate and strengthen the food system to be resilient against future possible crises?
- What is the percentage of food wasted in this region? What are realistic goals toward reducing food waste (amount and time frame)?
- Are there strategies that other states/regions have used that could be implemented in Delaware and the region?

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<sup>i</sup> <https://www.feedingamerica.org/>

<sup>ii</sup> <https://www.rts.com/resources/guides/food-waste-america/>

<sup>iii</sup> <https://www.rubicon.com/blog/food-waste-facts/>

<sup>iv</sup> FoodPrint: <https://foodprint.org/issues/the-problem-of-food-waste/>.

<sup>v</sup> <https://farmdocdaily.illinois.edu/2020/09/food-waste-and-covid-19-impacts-along-the-supply-chain.html>

<sup>vi</sup> <https://refed.org/about/who-we-are/>

<sup>vii</sup> <https://covid.refed.com/covidsolutionsfund>

<sup>viii</sup> <https://412foodrescue.org/about-us/what-we-do/>

<sup>ix</sup> <https://3g64ch1kkvxp7gd6o3h0a7gr-wpengine.netdna-ssl.com/wp-content/uploads/2021/08/2021-Effectiveness-Update.pdf>

<sup>x</sup> <https://mdfoodbank.org/news/our-farm-to-food-bank-programs-superhero-amy-cawley/>

<sup>xi</sup> <https://mdfoodbank.org/maryland-food-banks-covid-19-response/>

<sup>xii</sup> <https://news.mit.edu/2017/study-food-waste-recycling-policy-key-0817>

<sup>xiii</sup> <https://www.campbellsoupcompany.com/newsroom/sustainability/how-we-tackle-food-waste/>

<sup>xiv</sup> <https://refed.org/food-waste/the-solutions/#priority-action-areas>