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The Farm Bill Looks to Tackle Food Loss and Waste

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Food loss and waste (FLW) are drawing attention in the U.S. and around the globe. In the U.S. alone, it is estimated that 30-40% of the food supply is lost or wasted (USDA, 2019), though the exact estimate depends on how FLW are defined and measured (see Ellison, Muth and Golan, 2019 and Bellemare et al., 2017). When food is wasted, there are legitimate concerns about the resources like land, water, and energy that were used to bring that food to market; the emissions generated from food rotting in landfills; the amount of money that was invested in food that ultimately went uneaten; and why the food could not be distributed to people who are experiencing hunger. The short- and long-term economic, environmental and social impacts associated with FLW are certainly of interest but currently not well documented.

Increasingly, advocacy groups and policymakers are calling for action to reduce FLW along the supply chain. In 2015, the United Nations adopted Sustainable Development Goals (SDGs), one of which specifically targets FLW. SDG 12.3 calls for a 50% reduction in FLW at the retail and consumer levels as well as reducing post-harvest losses by 2030 (United Nations, 2015). The U.S. adopted SDG 12.3, incorporating this goal into the U.S. Food Waste and Food Recovery Challenges. In addition, the 2018 Farm Bill includes funding for FLW reduction efforts.

Unpacking the Decision to Waste

Most agree that FLW is not a desirable outcome. Whether you are a producer, food manufacturer, consumer or other supply chain actor, no one wants to see FLW – yet FLW still happens. Some have argued that FLW indicates there is an inefficiency. However, it is also possible that FLW could be a rational, and even optimal, outcome in some cases given one's preferences, incentives, and resource constraints (Ellison and Lusk, 2018). Economists would argue that the most likely answer is: the costs of avoiding FLW outweigh the benefits.

Consider a few examples. First, a producer is under contract to grow a certain quantity of food at a given price. The price does not change if the producer fails to meet the quantity threshold, but it may impact the contractor's willingness to work with the producer in subsequent years. Thus, the producer decides to plant a little extra in case there is any unforeseen pest or weather damage, to ensure that the quantity threshold is met. In this case, the producer is willing to incur a potential food surplus – even if that food is not marketable – to ensure future contracting opportunities. Most would view this as good risk management rather than irrational behavior.

Next, consider a household with two working adults and two children. In this household, the parents prefer to go grocery shopping once per week; they do not have time to take additional, supplemental trips to the store during the week. Given their time constraints, this family chooses to purchase two gallons of milk each week, but sometimes they cannot finish the second gallon before it goes bad. In this case, the household is willing to incur a potential loss to avoid an extra shopping trip. Some might argue this family would be better off if they purchased one gallon and one half-gallon of milk instead. If this resulted in the household running out of milk before their next shopping trip, though, the household would be worse off because a) their preferences go unmet or b) they have to make a second trip to the store. Thus, the household is maximizing their utility according to their preferences and constraints – which is rational behavior.

In both examples, neither the producer nor the household want FLW, yet each may be willing to accept some in an effort to maximize their individual profit or utility, respectively. Some might argue that the producer should donate the excess food or the household should freeze the leftover milk before it goes bad. Both are certainly options, yet are unlikely being pursued because the costs outweigh the benefits for the individual actors. The cost-benefit calculation gets more complex, however, when you consider the costs and benefits to society as a whole.

Let's continue with the producer example. To donate any surplus food, the producer incurs the cost of harvesting the surplus food, packing it, and transporting it to a donor organization (unless a donor organization is willing to come pick it up). There are also the environmental costs of any emissions associated with these functions. The direct benefits to the producer (beyond a good reputation in the community) are unclear unless there is a tax incentive for donation. However, from a societal perspective, the donated food could provide benefits in the form of meals for food insecure families. Quantifying the costs and benefits related to environmental and food security outcomes is far more challenging and much more work is needed in this area.

Further, market level impacts must also be considered alongside costs and benefits to fully evaluate the efficacy of food waste reduction efforts. For instance, if surplus food can be diverted from landfills and into retail through an ugly produce program, for example, how does this impact demand and prices for the non-ugly produce? Does this increase demand for produce overall or do consumers substitute away from non-ugly produce in favor of the less expensive ugly produce? There is little data available to answer these questions currently but it will be critical to improve our ability to tackle the issue of FLW.

The Farm Bill and FLW

The 2018 Farm Bill is the first farm bill in history that has dedicated spending that targets FLW. The FLW reduction efforts in the 2018 Farm Bill are primarily designed to reduce the costs of avoiding FLW for individual supply chain actors, which is an important first step in incentivizing reduction efforts. Such incentives are particularly helpful when the actor(s) incurring the costs are different from the actor(s) accruing the benefits – for example, when a producer incurs the cost of donation while food pantry patrons receive the benefits. Specific efforts to target FLW include (Center for Health Law and Policy Innovation, 2018; Berkenkamp, 2018):

- Appoint a FLW Reduction Liaison within USDA who will coordinate FLW reduction efforts between the USDA, EPA, and FDA and conduct a study on food waste with USDA
- Establish pilot projects in at least 10 states to develop and implement municipal compost plans and food waste reduction goals ($25 million/year)
- Increase funding for states to harvest, process, package, and transport donated agricultural commodities ($4 million/year)
- Clarify liability protection for food donation and establish provisions for direct donation from entities like restaurants and retail stores
- Develop a milk donation program where dairy farmers are reimbursed for donating surplus milk to food recovery organizations ($9 million in 2019; $5 million/year for 2020-2023)
- Establish the Local Agricultural Market Program (LAMP), which provides funding for, among other things, the development of new business opportunities to reduce on-farm food losses ($50 million/year)

- Incentivize the development of technologies to improve and extend the shelf life of specialty crops such as fruits and vegetables
- Establish a Carbon Utilization and Biogas Education Program in an effort to promote the diversion of FLW from landfills ($2 million/year)

Concluding Thoughts

While FLW may be a product of rational decision making, this does *not* mean we should stop searching for creative and innovative ways to address the issue. The 2018 Farm Bill included some initial steps to incentivize creativity and innovation along the food supply chain in the hopes of reducing FLW. An important *next step* will be estimating the short- and long-term costs, benefits, and market impacts associated with these efforts so we can determine which policies are effective and monitor progress toward achieving our FLW reduction goals.

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