

Food Wasted is Productivity Lost



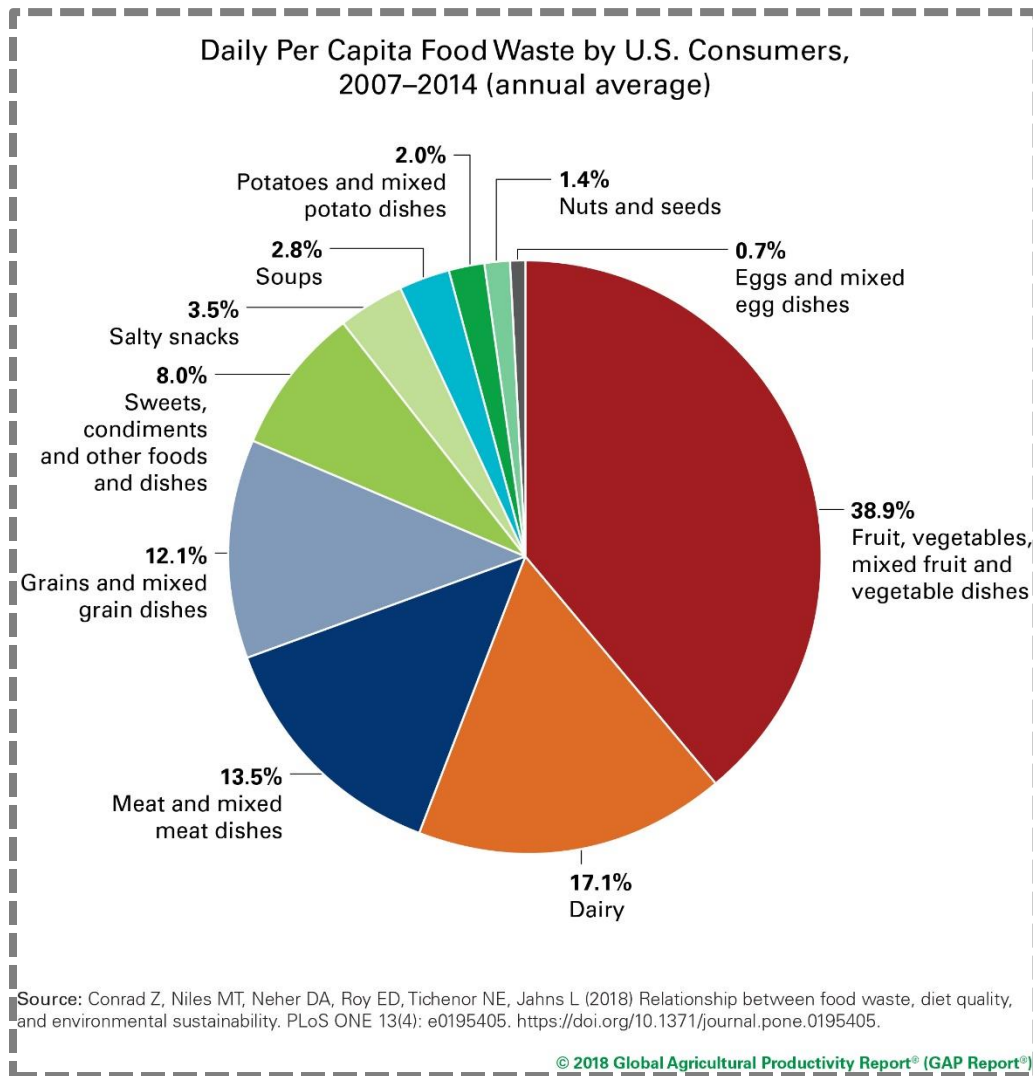
Foods with some of the most important nutrient content (fresh fruits and vegetables, dairy and lean meats) are also the most likely to spoil quickly and end up in the trash can.

A landmark 2018 study by USDA researchers examined the relationship between consumer food waste, diet quality and the environmental sustainability of agri-food systems.¹

The authors concluded with a challenging finding: higher-quality diets generated the greatest amount of food waste and environmental loss due to their higher concentrations of fresh produce, dairy and meats.

On average, Americans throw away one pound of food each day, the equivalent of 30 percent of the calories they normally consume. **Fruits and vegetables alone account for almost 40 percent of the waste, 17 percent is milk and dairy products and 13.5 percent is meat** (Figure 1).² These wasted foods are important sources of vitamins, minerals, protein and calcium that promote healthy lifestyles and reduce healthcare costs.

Figure 1



Higher-income households tend to replace spoiled foods quickly, for example, purchasing another carton of strawberries during the next trip to the grocery store when the carton in the refrigerator goes bad. In those households, the lost nutrients are replaced and therefore more likely to be consumed. But the price of highly-perishable foods can prevent many households from replacing spoiled food right away, so the opportunity to consume those nutrients is lost, along with the food.

Not only do spoiled foods end up in landfills producing methane, they are a waste of the agricultural resources used to produce them.

The USDA study calculates that the equivalent of 30 million acres of cropland would be needed to produce the food and animal feed for livestock products (dairy, meat and eggs) that Americans throw away each year.³ Nearly 4.2 trillion gallons of irrigation water is wasted, including 2.35 trillion gallons to produce the wasted fruit and vegetables alone. Wasted fruits and vegetables are responsible for most of the pesticide waste, while most of the wasted cropland and fertilizer is used to produce feed for livestock.

Figure 2

Agricultural Inputs and Resources Used to Produce Food Waste in the U.S.	
Cropland	30 million acres
Irrigation Water	4.2 trillion gallons
Pesticide	780 million pounds
Fertilizer (Nitrogen, Phosphorus, Potash)	5.6 billion pounds
Annual average, 2007-2014. Source: Conrad Z, Niles MT, Neher DA, Roy ED, Tichenor NE, Jahns L (2018) Relationship between food waste, diet quality, and environmental sustainability. PLoS ONE 13(4): e0195405. https://doi.org/10.1371/journal.pone.0195405	

While not covered in this study, wasted food is also a waste of agricultural labor, capital (mechanization) and public and private-sector investments in the development of technologies for agricultural productivity and sustainability. The economic and environmental costs of transporting, packaging and storing food that eventually ends up in the garbage also need to be considered in the cost of wasted food.

If high-quality diets generate higher environmental impacts, **is it possible to increase the quality and diversity of the American diet in a way that is environmentally sustainable and economically viable?**

Cutting food waste alone is not the answer. A multi-faceted approach is needed:

- Increase the productivity of food production by precisely using land, inputs, water and labor to reduce environmental impacts;
- Improve the nutritional content, quality and shelf-life of nutrient rich foods;
- Educate consumers about how to manage their food purchases, storage and preparations to reduce waste;
- Encourage smaller portions in restaurants;
- Find productive uses for unused foods, such as food distribution programs and converting wasted food into compost and biogas.

How do you reduce food waste? Ask the Danes!

Denmark has cut food waste by 25 percent in five years. This remarkable achievement is the result of a new approach to damaged and out-of-date food.

A campaign by Stop Wasting Food, a Danish NGO, encouraged supermarkets to actively promote and discount products that are close to the sell-buy date.



A company called Wefood has taken this approach even further. They have opened two stores that only sell food that is past the sell-buy date (but safe to eat), or food with damaged packaging. The products are discounted by at least 50 percent and all the profits go to charity. The trend is growing; the first supermarket for “wasted” food in the U.K. will open next year.

Endnotes

¹ Conrad Z, Niles MT, Neher DA, Roy ED, Tichenor NE, Jahns L (2018) Relationship between food waste, diet quality, and environmental sustainability. PLoS ONE 13(4): e0195405. <https://doi.org/10.1371/journal.pone.0195405>

² Conrad Z, Niles MT, Neher DA, Roy ED, Tichenor NE, Jahns L (2018) Relationship between food waste, diet quality, and environmental sustainability. PLoS ONE 13(4): e0195405. <https://doi.org/10.1371/journal.pone.0195405>

³ Conrad Z, Niles MT, Neher DA, Roy ED, Tichenor NE, Jahns L (2018) Relationship between food waste, diet quality, and environmental sustainability. PLoS ONE 13(4): e0195405. <https://doi.org/10.1371/journal.pone.0195405>