



SUPERMARKET FOOD WASTE

Food and beverage retail in the U.S. is a \$700B+ industry annually. It consists of 40,000 stores — or as many as 115,000 if you factor in small mom and pops — which sell a variety of food products through supercenters, conventional grocers, warehouse stores and clubs, and natural food markets.

Grocery retailers are at the intersection where farmers and producers meet customers. To get to the grocery store shelves, the highly fragile product mix must travel through the supply chain. In the process, many foods may spoil or become damaged before they arrive.

After arrival, food inventory challenges may lead to additional damage and waste. In the retail industry, loss of inventory is called “shrink,” and food damages contribute to a shrink rate for grocers that is nearly double that of other retailers. Unsold food causes loss of revenue for businesses and significant environmental and social impacts. Opportunities exist to better handle the following items to help reduce food waste:

- Produce (which makes up a bulk of grocers’ food waste).
- Deli salads, meats, and other preprepared items. This often includes “mixed meats” (pizza, salad with meat items, etc.) and can also include used cooking oil and grease trap wastes.
- Meats, including fresh meat, trimmings, bones, packaged items, and mixed meats.
- Dairy items such as milk, cheese, and yogurt.
- Frozen and dry foods, including a variety of packaged foods.
- Liquids, including milk, and expired beverages that aren’t taken offsite by a vendor. Liquids are challenging to manage and may require special processes, such as limited amounts at one time or offsite depackaging.

Denali services more than **15,000** grocery retail locations and manages over **600,000** tons of material annually.



Denali is among the largest companies handling food waste in the U.S. Our operations include hauling, recycling, and selling converted food waste products — the full circular process.

DID YOU KNOW? Shrink makes up around 3% of grocery retail sales. Nearly 65% of shrink comes from operational inefficiencies.

REDUCE AND DONATE

Shrink

The first step to addressing food waste management is reducing the amount that's generated. *If you don't have the waste, you don't have to manage it.* The main priority in grocery retail is to sell product. This is achieved through regular sales, followed by markdowns. Supplier contracts and partnerships are important considerations that can set the stage for better food-handling processes. However, regardless of how it occurs, product loss (shrink) usually equals direct profit loss. According to some estimates, nearly 65% of grocery retail shrink is caused by operational inefficiencies and the remaining 35% is caused by theft. This means that most food loss in grocery stores can be attributed to factors that are within operational control.

The top five drivers of product loss are:

- Inefficient ordering
- Production planning
- Errors in product handling
- Rotation errors
- Receiving errors

Info from wheresmyshrink.com

Unexpected Events — Storms, Power Outages

Events like power outages and storms also contribute to profit loss and massive amounts of food waste. Emergency preparedness measures like onsite generators and refrigerated trailers can help keep food from spoiling during these events. Sometimes, food that is considered inedible can still be recycled. Handling is a challenge in these situations, but there are emergency measures that are able to recycle as much food as possible during these events. Denali is one of the few providers that may be able to help with emergency food recycling. Read on for more information on recycling food waste.

Feed People

Donating edible food to hunger relief organizations is also an important step, and a key to maximizing donations ties into operational efficiency. Donating food requires proper inventory management to pull and sometimes freeze food items right before expiration so food banks and pantries receive fresh, edible food to distribute to families in need.



RECYCLE

Now that waste prevention and donations have been addressed, diverting food waste from landfills through recycling is the next step. The food waste recycling infrastructure has grown over the last several decades in the U.S., allowing for the creation of more commercial (and some residential) food waste recycling programs. The following are different recycling methods for source-separated food waste:

- **Convert to animal feed.** A valuable livestock food that is nutritious and environmentally beneficial, reducing the amounts of other crops that need to be grown to feed animals.
- **Convert to compost or fertilizer.** A rich soil amendment that can enhance soil health and provide plants nutrients that may reduce or eliminate the need for synthetic fertilizers.
- **Convert to energy or fuel.** A contained anaerobic process that generates and captures methane for energy production.

How do I know which recycling method works for my grocery store? There are several factors that come into play when recycling food waste.

- **Depackaging** food waste manually can be labor intensive. There are growing options that allow for depackaging *after* food leaves the facility.

These processes eliminate the need for dedicated labor to remove packaging from food items and prepare them for recycling.

- **Meat items** — especially raw meat, bones, and trimmings — often cannot be mixed with other food waste. There are options for meats to be mixed in or segregated from other food waste.
- Availability of **recycling outlet options**, which can determine the most efficient and feasible route for recycling food from certain locations.
- **Operational procedures and corporate commitments** that prioritize food waste diversion can help maximize food waste programs and related costs.
- **Vendor hauling versus backhaul.** The ability to backhaul and consolidate food waste can save on transportation miles and overall expenses. This often relies on the store to consolidate food waste through internal fleet backhaul. Alternatively, a service provider can pick up food waste on “milk-runs,” which is going store to store to pick up smaller amounts of food waste from outdoor bins (most commonly).

Denali can help stores determine which options work best for recycling their food waste and can offer various service options to best fit each store’s needs.

DID YOU KNOW? Food waste recycling does not need to cost more than traditional trash disposal. It is important to consider all related costs when comparing waste management options and overall value when comparing costs.





KEY BENEFITS TO RECYCLING FOOD WASTE

There are many benefits to recycling grocery store food waste. A few of these are listed below:

- 1** Food waste can be hard on trash compactors. Diverting food waste minimizes compactor maintenance while reducing what goes to the landfill — which may be a mandate in your city or state.
- 2** Food waste causes foul odors. Luckily, odor issues are reduced quickly with weekly service of a 3-yard locked container. Additionally, our trucks have an on-board cleaning system to ensure your receptacle is clean and sanitary. Not placing food waste in the compactor reduces odor issues inside and around the facility, and extends the life of the compactor.
- 3** Data can provide operational insights. Data related to service, weights collected, and recycling methods can be shared to help provide insights on better ways to implement more efficient processes and reduce inventory loss.
- 4** Recycling food waste isn't the only opportunity to divert organic materials from the landfill. Managing and recycling other items such as used cooking oil, lawn and garden waste, holiday plants/trees, and parking lot landscaping waste are just a few ideas.
- 5** Recycling food waste helps supermarkets achieve or improve environmental, social, and governance (ESG) goals.

Learn more at denalincorp.com.

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