

ROADMAP TO SUSTAINABILITY: FOOD-WASTE PREVENTION PATHWAYS

Achieving zero food waste in grocery operations starts with strong commitments and data tracking at every level.

For companies to be successful in meeting their waste-reduction goals, they must focus on preventing food waste as early as possible and provide support for stakeholders including food producers, suppliers, employees and customers. This roadmap showcases trends and opportunities for grocery companies to improve waste-reduction efforts, from the supply chain to shopper support.

PRINCIPLES FOR BETTER FOOD-WASTE POLICIES

Companies should adopt the following principles into corporate sustainability efforts by 2020:

- **Commitments.** Committing to achieving zero food waste with a time-bound goal.
- **Tracking and Transparency.** Tracking total volume of food waste to measure progress, and public transparency to build accountability with stakeholders.
- **Prevention.** Developing comprehensive prevention programs to stop waste at its source rather than primarily relying on donating or recycling excess food; these efforts should include the strategies outlined below in this document.
- **Collaboration.** Collaborating across the industry, instead of treating food waste as proprietary effort. Producers, processors and agencies can synthesize data and develop solutions and listen to customers to reduce waste in stores and homes.
- **Systemic Change.** Advocating publicly for fighting food waste at the systemic level as a leading part of sustainability initiatives. With real leadership companies can help transform the industry by urging better standards, pushing for improved public policy, and helping shoppers make smarter choices through measures like date labeling.
- **Supply Chains.** Purchasing with strategies that reflect these principles. By purchasing smarter with contracts that de-incentivize overproduction and overstocking, and committing to whole crop purchasing, bumper crop purchases and seasonal promotions companies can align sales with the reality of food production.

FIGHTING FOOD WASTE IN THE GROCERY INDUSTRY

In *Slow Road to Zero: a Report Card on U.S. Supermarkets' Sluggish Path to Zero Food Waste (2019)*, the Center for Biological Diversity looked at company websites, corporate sustainability reports, news reports, promotional materials and other publicly available data. We reached out to each supermarket directly to gather more information from company representatives. Some companies were responsive to requests for more information, others were not. We made every effort to include all available, relevant information.

In addition to the above principles, companies should implement the following supporting strategies. These five strategies to reduce and eliminate food waste are the leading strategies across the industry: integrating innovative technology, standardizing date labeling, streamlining sustainable seafood, using imperfect produce, and improving shopper support and communication. These strategies should be implemented across the entire company in all stores.

1. Integrate Innovative Technology:

Implement supply chain tracking systems to increase freshness, reduce spoilage and set benchmarks.

Target and Whole Foods are utilizing new automation and software capabilities to improve their supply-chain processes. This helps reduce the amount of time that perishables are in transit, keeping them fresher on store shelves and reducing spoilage. Tracking systems allow companies to create a baseline and set targeted diversion goals all the way down to the store level. In addition, they help companies better understand diversion rates and evaluate progress to continuously improve waste-reduction efforts.

Whole Foods is also currently in the process of aggregating and analyzing data from its third-party waste-management partner, Elytus, which tracks food donated, compost and other organic diversion, cardboard, single stream recyclables, and other plastic and materials diverted from landfill and trash for all 497 stores.

Digital supply-chain tools

Third-party innovators are helping companies improve stocking and shelf life; for instance, Walmart uses Eden Technologies. Similarly, Afresh Technologies helps grocers buy just enough to keep shelves stocked but reduce waste through machine learning. This improved precision in ordering is key as a prevention strategy. Meanwhile, Bluapple and Ovie are also working to extend the shelf life of produce.

These technologies improve matching of supply and demand, increase efficiency of transactions in the supply chain, and enable the tracking of loss and waste. Walmart uses blockchain technology to evaluate \$200 billion worth of goods and inform supply side food-waste reduction initiatives; the company uses Eden to address inventory management and is projected to save an estimated \$2 billion in food waste over the next five years.

Albertsons is piloting blockchain technology through the IBM Food Trust network to track food from farm to shelf. The Food Trust solution creates a digital record of transactions from a packaging date to the temperature at which an item was shipped, to its arrival on a grocery shelf (Wolfson, 2019).

Ahold Delhaize USA is the first American grocery retail company to use RELEX technology to provide end-to-end forecasting and replenishment solutions. The flexibility and ability to more precisely match consumer demand with the supply chain allows for smarter stocking and a shorter time frame for food to get from suppliers to stores. This can add days to at-home shelf life for produce and reduce wasted non-perishables (Redman, 2019).

Further, Ahold Delhaize USA's Food Lion and Hannaford brands have been piloting a RELEX solution for distribution since early 2018 (Redman, 2019). Reporting public data on the impact of this solution would be a smart way for the company to show transparency and leadership in its food-waste reduction efforts.

In-store technologies

One common problem is that food-waste reduction may be solved with increased intelligence in packaging solutions while stores are trying to reduce packaging for environmental purposes. But the most savvy tech companies are working to solve this problem without making the plastic problem worse.

Tech startup Apeel Sciences has created a bio-based coating to double the shelf life of fruits and vegetables and piloted this technology with Kroger and Costco (Waste 360, 2019). This brings good sense to businesses too. For example, Harps Food Stores saw a 65 percent increase in margin and a 10 percent increase in sales in avocados from its Apeel Sciences' shelf-extension pilot innovation (ReFED, 2018).

Companies like Copia and Goodr are also making food donations easier, while Boston-based Spoiler Alert can serve as a "middle man" for shoppers and grocery retailers by identifying outlets that recover food from unsold inventory (Waste 360, 2019). Across all stores Target has launched an app to streamline donations after seeing an 11 percent increase in food donations during the pilot phase.

While technology can help improve efficiency of food-donation programs, it doesn't track for total impacts, once wasted food is delivered, the tracking stops. Once it leaves the store, food may be consumed, wasted, composted, fed to animals, or recycled for energy. As shown throughout this report, donations should be secondary to prevention strategies in the fight against food waste. "Getting food from A to B that's about to go to waste is good, but wouldn't it be better to not even have all that extra food to begin with?" (Jordan Figueiredo, in Jansen, 2019).

2. Standardize Date Labeling:

Implement mandatory industry-wide standard date labeling system across all products.

Research shows confusing, inconsistent labels like "sell by," "best before" and "use by" may account for 20 percent of U.S. household food waste (ReFED, 2019). These date labels may lead 90 percent of American shoppers to discard perfectly good, edible food (ReFED, 2019). Infant formula is the only product with regulated dates. For all other products, the dates are suggestions for freshness from the manufacturer and most products remain safe to eat past these dates (ReFED, 2019).

Industry standards

The Grocery Manufacturers Association and Food Marketing Institute offer industry-wide voluntary date-labeling standards, recommending "best if used by." "Use by" is another option that applies to products that are highly perishable with a safety concern (ReFED, 2019). The association claims that nearly 90 percent of products use either "best if used by" or "use by." (ReFED, 2019)

In May 2019 the Food and Drug Administration sent a letter to the food industry that urged companies to standardize "best if used by" labels to reduce confusion (Food and Drug Administration, 2019). The FDA's opinion about using the single term "best if used by" has been called a win for consumers by advocacy groups (Reiley, 2019). Standardized date labeling is not currently required, but to eliminate food waste and reduce customer confusion, it needs to be (Reiley, 2019).

Some companies are moving toward "best if used by" model. Nearly two years ago, for example, ALDI instructed its suppliers to begin using the standardized industry date-labeling system developed by the U.S. Food Marketing Institute (Food Marketing Institute, 2018). Under this direction many labels already use the standard format, and others are being updated as changes are requested. And to make labels easier to understand, Walmart has led an effort to standardize date labeling across its own private-brand products and has switched to "best if used by" labels to prevent unnecessary waste of edible food.

3. Streamline Sustainable Seafood:

Hold fishing industry accountable for highest standards of sustainability by using the top certifications across 100 percent of all products and focus on eliminating bycatch.

Seafood waste is a major problem facing the world's oceanic ecosystems. Grocery stores are at the forefront of that problem despite their showcasing of sustainable seafood policies. Unfortunately, some of the sustainability efforts don't address the most important issues, like eliminating and minimizing the waste of nontarget marine life, called "bycatch."

Eliminating bycatch

Bycatch includes, but is not limited to, endangered whales, turtles, sharks, dolphins and other ecologically important species that are considered collateral damage by the most wasteful fishing practices.

Some U.S. fisheries, such as shrimp trawlers, can have bycatch as high as 64 percent of their total yield (MBA, Seafood Watch). 500 to 714 million pounds of fish, sea turtles, dolphins, whales and other marine animals are unintentionally caught in the seafood industry's nets and wasted each year (Seafood Watch).

Entanglement in fishing gear is one of the fastest-growing threats to large whales on the West Coast (Seafood Watch). A record number of whales reported entangled in fishing gear on the West Coast has doubled in recent years and includes humpback whales, gray whales, fin whales, orcas and blue whales (NOAA, 2018).

Further, a Johns Hopkins Center for a Livable Future report evaluated the seafood chain from sea to plate and found that 2.3 billion pounds of seafood was wasted in the U.S. annually, including 573 million pounds of bycatch (Johns Hopkins Center, 2015). That number indicates that approximately 40-47 percent of post-harvest seafood available for human consumption is wasted (Johns Hopkins Center, 2015). Researchers estimate that we could feed 10 to 12 million people for a year just on the amount of seafood wasted (Food Water Watch, 2010).

Improving sustainability standards

To truly strive for sustainable-seafood policies, companies must work with suppliers to eliminate bycatch. Companies should report on the bycatch for which their supply chain is responsible in purchasing accounts.

Sustainable-seafood certifications and sustainable company policies must also have clearer and stronger environmental standards that start at the supply chain and end with shopper support. Companies leading the way, like Whole Foods and Target, use Seafood Watch for sustainable wild-caught rankings, and clearly label fresh seafood species and origins.

Other companies work with suppliers to minimize bycatch and have sustainability built into their supply chains and in-store policies to reuse and recycle seafood. According to its websites, Walmart works with the Sustainable Fisheries Partnership and 100 percent of their seafood matches their company sustainability policy. ALDI has also improved its practices by addressing problematic practices in illegal fishing linked to transshipment, according to information on its website.

Some programs grocery companies are aligned with are not as sustainable as they claim. Companies that have sustainability policies may use suppliers that don't work to eliminate or minimize bycatch, or they may not have in-store policies to reuse and recycle seafood. This is especially true for the powerhouses that impact the widest range of shoppers and are falling behind in this part of the food-waste elimination landscape, though moving forward in others, like Walmart and Ahold Delhaize. But it is also true for companies like Trader Joe's with strong policies in some areas, like ethical tuna, but unclear policies in others. As with other food-waste issues, commitments, tracking and transparency and prevention are key.

Although many stores rely on the Marine Stewardship Council, it has taken some notable flak for its policies that don't hold fisheries accountable for high levels of bycatch (White, 2017). In a recent report, only 1 out of 23 fisheries approved by the council had substantially reduced its levels of bycatch (White, 2017). Seven fisheries had increases in bycatch or stayed constant over the certification period. (Sessa-Hawkins 2019). The council did vow in 2018 to review its certification standards in relation to endangered species. According to company websites, companies like Costco and ALDI work with the Marine Stewardship Council on some items.

Whole Foods' Wild-Caught Seafood Policy, on the other hand, requires that fisheries assess bycatch and follow the Monterey Bay Aquarium's Seafood Watch guidelines for sustainability (Seafood Watch, 2019). All canned tuna sold at Whole Foods Market is caught with pole-and-line, troll or handline catch methods. Fishermen catch tuna one fish at a time, which prevents bycatch of other species.

4. Use Ugly Produce:

Introduce imperfect produce programs across all stores to encourage sale of aesthetically misshapen fruits and vegetables and adjust aesthetic standards and consumer expectations.

Better utilizing fruits and vegetables that don't meet aesthetic standards but are perfectly edible is an excellent opportunity to reduce food waste.

Some stores feature “ugly” produce, which doesn't meet strict cosmetic standards but is still safe and delicious to eat, in their produce departments. For example, Kroger is debuting “Pickuliar Picks” line of irregular produce in 2019 (DeMasi, 2018). Successful ugly produce programs show that smart marketing can make these options popular.

Imperfect produce can also be repurposed in smoothie, pre-made meals, juices and salad bars. Whole Foods Market incorporates retail-quality seconds/B-grade produce into some prepared food, juice and smoothie bars, and elsewhere throughout the store. Prepared foods and store bakery departments will also take produce that becomes damaged or bruised and use it in prepared dishes and baked goods.

Integrate ugly produce in store policies

Ugly-produce programs shouldn't be one-off or store-specific. When they are, they represent a lack of commitment to farmers and reducing wasted food and can be ended prematurely. In our 2018 report, we encouraged Ahold Delhaize USA to expand its “Misfit” imperfect produce program, which was piloted in its Hannaford grocers (Center for Biological Diversity, 2018). Unfortunately, according to media reports, the Hannaford stores discontinued the pilot program (DeMasi, 2018).

5. Improve Shopper Support and Communications:

Lead the industry by example by providing shoppers the information, tools and purchasing options they need to avoid over-purchasing.

A 2018 study by the Boston Consulting Group found that shoppers who may want to reduce food waste often don't have the information they need to make sustainable choices (Boston Consulting Group, 2018). For instance, people demand fresh produce that's out of season rather than purchasing frozen because of a misperception that it's healthier or tastes better, resulting in additional transport costs and waste (Hegnsholt, 2018). Efforts to increase awareness about how to effectively shift away from products that contribute to waste could save \$260 billion annually (Hegnsholt, 2018).

Walmart remains a leader when it comes to in-store efforts to reduce food waste. The company is improving stocking, standardizing date labels, and educating associates and shoppers.

Empower customers to shop smarter

Target's internal communication channels highlight commitments and achievements, as well as personal stories for team members to learn about the work, how to get involved, and how to translate it into their everyday lives — including stories on how to reduce waste for team members and shoppers. Through a company-wide Earth Month engagement, waste — including food waste — is integrated into the planning process as well as part of the broader messages.

Ahold Delhaize USA's Fresh at Home program aims to get produce from farms to shelves more quickly, so that shoppers can increase the shelf life of fresh foods at home. The company reports that it is looking into organic coding for veggies to add to the shelf life as well. It has a “green champion” in each store who competes with all his or her counterparts regionally to reduce waste and increase donations.

In addition to communicating food-waste reduction efforts to shoppers and providing resources to help reduce in-home waste, companies can support packaging and promotions that help change consumers' behavior, such as investing in packaging that extends shelf life and discourages over-purchasing. Companies can also train employees at all levels to manage inventory and track and measure waste to help identify its causes.

CONCLUSION

Leaders in the grocery industry are making ambitious, time-bound commitments to zero waste and focusing their investments on food-waste prevention strategies. And they're tracking their progress and reporting it publicly. But effective food-waste reduction and elimination efforts must not stop there.

The future of the food-waste fight includes industry-wide efforts across all products, stores and supply chains. The supermarket industry must get serious about innovative technology at every level of the food chain supply and beyond, to improve tracking and set higher, and more accurate benchmarks. And although the industry as a whole is pointing toward standardized date labeling, this should be mandatory for all stores and all products.

Similarly, one of the most important things the industry can do to reduce food waste is to set and implement more truly sustainable seafood policies. It is simply not enough for 100 percent of products to meet internal seafood policies — those policies need to be truly sustainable. And that begins by incorporating as much of a company's purchasing commitments into the highest standards, like that of Seafood Watch. Eliminating and reducing bycatch must be a mandatory part of all seafood programs.

Meanwhile in-store initiatives and improving shopper support are an important pathway to the strongest food-waste elimination policies. Imperfect produce programs, whether selling produce for discounts or adjusting consumer expectations and recycling habits, should be more commonplace throughout the industry. Also, shopper support should include more than the occasional online blog and instead strategically assist shoppers by eliminating wasteful shopping schemes (like buy-one-get-one-free), integrating prevention strategies in marketing and promotion, and economic incentives toward best food-waste and loss-reduction practices.

Tackling these steps will bring real progress along the path to eliminating food waste from the grocery retail industry.

CONTACT:

The Center for Biological Diversity is excited to continue to work with companies on these issues and will be issuing updated evaluations. For more information contact Jennifer Molidor at jmolidor@biologicaldiversity.org.

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