

# Institutionalizing a Waste Reduction Culture in Food Manufacturing

A three-pronged strategy of education, company-wide engagement, and quick-win implementation to achieve meaningful food waste reductions



# Executive Summary

Bob's Red Mill (BRM) partnered with the Pacific Waste Food Waste Commitment (PCFWC) and TripleWin Advisory to develop a multi-faceted employee engagement campaign to reduce food waste in the company's whole grain milling and packaging facility in Milwaukie, Oregon.

The project ran for six months from May to October 2022 and succeeded in:

- 1 Educating and building excitement across the organization via a new [food waste education video](#) for current and future staff;
- 2 Creating a **Food Waste Reduction Challenge** to engage and educate staff, as well as solicit high-potential new ideas to reduce food waste in BRM's facilities and operations;
- 3 Building a new **Food Waste Opportunity Register** to record and prioritize new ideas from employees, as well as from the facility walk-throughs conducted during the project; and
- 4 Selecting and implementing one quick-win (minimal effort, no-to-low cost) **food waste reduction opportunity**.

As a result, the project had an immediate impact that included:

- **29% of company employees** watching the new [food waste education video](#)
- **176 ideas submitted** to the Food Waste Opportunity Register
- **22% of plant employees** submitting food waste reduction ideas
- **More than 70% reduction in food waste** on the manufacturing line where the quick-win idea was tested

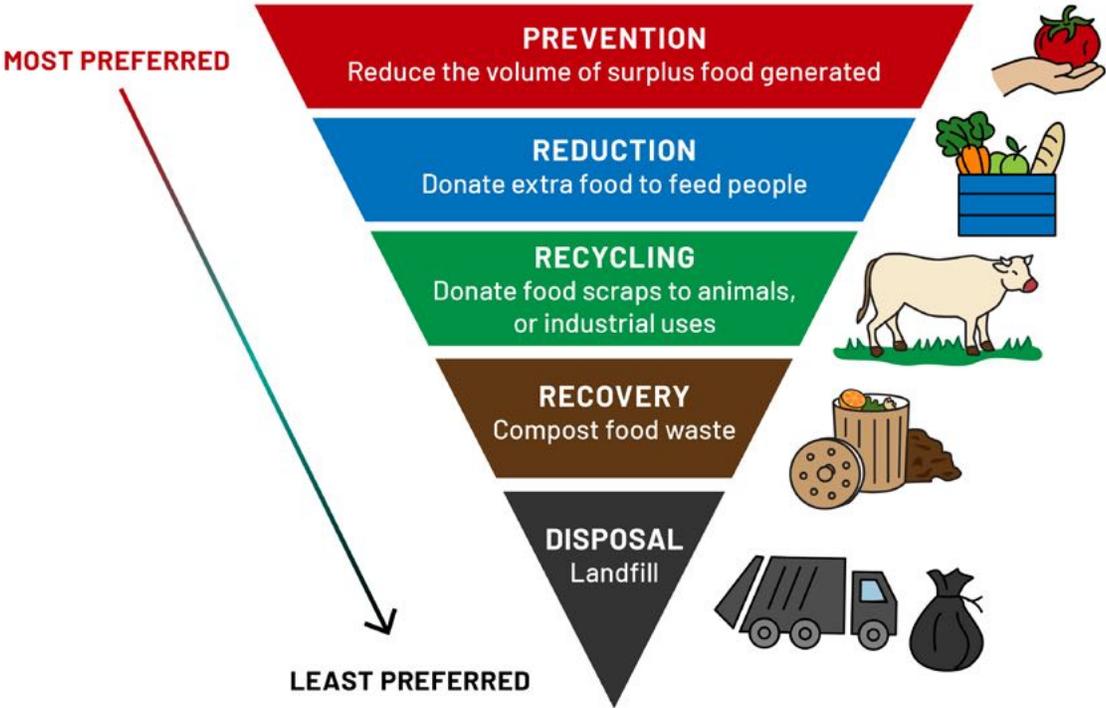


# Introduction

Bob's Red Mill is a 100% employee-owned whole grain manufacturer located in Milwaukie, Oregon. Established in 1978 by Bob and Charlee Moore, the company operates a 283,000-square-foot manufacturing plant at its world headquarters, which includes conventional and gluten-free milling and packaging. The company has more than 700 employees and sells its products across the U.S. and internationally.

As the PCFWC's first manufacturing signatory, BRM was enthusiastic about conducting this food waste project pilot, developed in partnership with the PCFWC and TripleWin Advisory (a corporate sustainability consultancy). The pilot sought to simultaneously engage employees on the issue of food waste and identify no-to-low-cost measures to prevent food waste in the company's manufacturing facility over the short term and long term.

The term food waste describes uneaten food and inedible parts that end up being landfilled, incinerated, disposed of down the sewer, dumped, or spread onto land. In short, it's food that was grown for people but is not used for its intended purpose. Strategies for reducing food waste can be organized by order of preference, as shown in the [U.S. EPA Food Recovery Hierarchy](#) below:



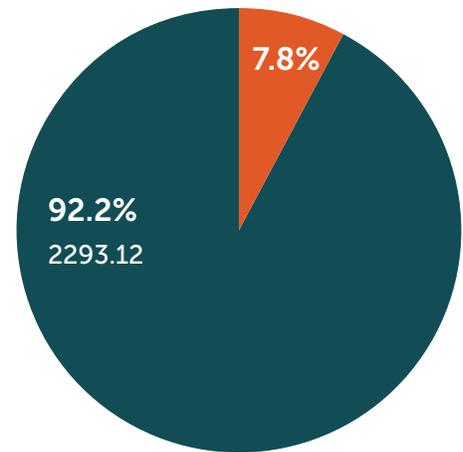
Source: U.S. EPA

BRM has a long-standing and proven track record of managing food waste in its operations through its zero waste initiatives to ensure that none of its surplus food ends up in landfills or incinerators. BRM is keenly focused on deploying food waste prevention strategies within its retail operation and manufacturing facilities. In 2021, BRM reported 2,486 tons of food waste. It *reduced* 8% of that number by donating to local charities and *recycled* the remaining 92% of byproducts by selling it to farms as animal feed (see chart to the right).

While BRM is diligent about recovering and recycling food waste, the company wanted to understand how it could more effectively prevent losses in the milling, processing, and packaging stages of its operations to maximize the financial, environmental, and social impacts of its efforts.

### Where Food Waste from Operations Went in 2021

(by weight)



Food Donations Feed

Tons of Food Waste 2021

**2,486**





# The Solution

## Project Design

TripleWin worked closely with BRM to develop an employee engagement program that would align with their organizational culture and employee ethos. Earlier in the year, BRM kicked off a plant-wide energy savings program by using a continuous improvement / lean manufacturing approach to find no-to-low cost savings opportunities. BRM built off of this approach for the Food Waste Reduction Challenge. With BRM's guidance, TripleWin created a customized incentive program that generated interest by being fun and inclusive, and by offering multiple ways to win prizes for ideas generated.

TripleWin ran the five-week Food Waste Reduction Challenge from July 8 to August 12, 2022, engaging BRM employees to identify and recommend food waste reduction opportunities in their respective roles. Participating employees had the ability to win prizes of increasing value, be entered into a high-value Grand Prize drawing, and be honored publicly for submitting innovative ideas.

## Education and Employee Buy-in

A 17-minute educational [video](#) was created that covered all aspects of food waste, from global hunger issues to supply chain losses, as well as actions to take at work and at home. The video conveyed a strong sense of purpose about why the Food Waste Reduction Challenge mattered and encouraged employees to have a personal stake in the outcome.



Educational Food Waste Video

Reminders of the Food Waste Reduction Challenge were placed in key locations and updated weekly. Key channels for building excitement and gathering ideas included:

- A **six-foot tall wall-mounted banner** acting as a contest thermometer to indicate rising engagement and progress toward the goal number of reduction ideas.
- **Bob TV** (a closed-circuit broadcasting system) displayed new slides every week that announced the competition, previewed upcoming prizes, displayed the current goal, and announced winners' names (and/or photos).
- **Large bright blue ballot boxes and a QR code** were used for submitting ideas physically or digitally.
- Reminders were conveyed **verbally** in Team Leader meetings, on **posters**, and through **email distributions and monthly newsletters**.



# Company-Wide Brainstorming

Prior to the Food Waste Reduction Challenge, TripleWin conducted three facility walk-throughs or “*Gemba walks*,” which are a proven continuous improvement tool within manufacturing to view firsthand where food waste occurs in BRM’s operations.

Food waste reduction ideas from the walk-throughs were entered into a Food Waste Opportunity Register, which itemized and categorized them along two dimensions:

- Degree of food savings (Low, Medium, High)
- Speed of impact (Quick Win, Gem, Strategic or Capital Investment, Don’t Pursue)



FOOD WASTE REDUCTION WITH BOB'S RED MILL & WWF						
Opportunities to Reduce Food Waste			Step 1)	169	Identify	
Opportunity #	Opportunity Name	Description	BRM Building	Location in BRM Building	Sw	
32	Grain spillage on floor with no capture mechanism	Grain spillage on floor with no capture mechanism	WHQ	Conventional Packaging #1		
34	Recapture and repurpose grain vent overflow	Recapture and repurpose grain vent overflow	WHQ	GF Packaging 1		
35	Automate product top-up process	Automate product top-up process	WHQ	Conventional Packaging		
37	Place teflon coating on conveyor systems/arms that move "bouncy", "lumpy" and expensive product ingredients (i.e., raisins)	Place teflon coating on conveyor systems/arms that move "bouncy", "lumpy" and expensive product ingredients (i.e., raisins)	WHQ	Conventional Packaging		
38	Install a mechanized filling system to rework & specialized product area	Install a mechanized filling system to rework & specialized product area	WHQ	Conventional Packaging		
39	Automate product top-up process	Automate product top-up process	WHQ	GF Packaging 1		
40	Product from partial cases and lots donated	Product from partial cases and lots donated	WHQ	GF Packaging 2		
41	Placing a compost bin in the bussing area for customers	Placing a compost bin in the bussing area for customers	WGS	WGS- Kitchen		
42	Dissees and build in composting with Cleaning staff	Dissees and build in composting with Cleaning staff	WGS			
43	food waste prevention education tags on packaging	food waste prevention education tags on packaging	WGS	WGS- Grain Store		
44	educational signs within store	educational signs within store	WGS	WGS- Grain Store		

The Food Waste Opportunity Register

# Implementation

To capitalize on the 176 food waste reduction ideas that were generated by employees and captured in the Food Waste Opportunity Register, TripleWin and BRM worked together to hone in on one food waste opportunity to pilot—Idea #74 (submitted by Jennifer Blasko during the Food Waste Reduction Challenge), which met the following pilot criteria:

- Being a “quick win” and “do it now” opportunity
- Offering medium food waste savings
- Having no cost requirements
- Needing only medium effort to implement

The food waste idea concerned a specific piece of equipment, Line 10, which operates when short runs of specialty grains are in particularly high demand. The opportunity on Line 10 was to “Fix the Scale Buckets” by more regularly checking (and re-tightening when necessary) a series of bolts that secure a metal screen atop the conveyance system. This in turn works to fill grain buckets more evenly and help to prevent overflow—which causes product to spill over and be lost to “floor sweepings.”

With the decision to implement Idea #74, TripleWin worked on setting up the pilot conditions to track food waste data on Line 10 over a five-week period (September–October 2022). A standard operating procedure was created that detailed what data should be collected, how often, and when; who would be the point person for managing food waste data gathering and reporting; and how the food waste from Line 10 would be managed.



**Line 10 dedicated food waste collection tote**



**Whole grain packaging equipment: Line 10**

# The Results

BRM's food waste audit and line adjustment showed promising results that provide a model for other food manufacturers to realize meaningful food waste reductions in their facilities and co-manufacturing partner sites. Additionally, the approach can be implemented within a short period of time—and at minimal (or no) cost—by employing simple, yet effective process and behavior changes (such as critical observation throughout processing runs, equipment due diligence, and employee care).

Already, early returns from the pilot have shown just how much one employee idea can move the needle on food waste reduction within a manufacturing setting. After first running a baseline of waste on Line 10, BRM implemented and tested Idea #74 for three weeks.

The post-implementation food waste audit showed an average 71% and 78% reduction in food waste (per pound and per case) respectively for each product produced on Line 10. This was despite production output nearly doubling on Line 10 during the pilot period. (See the Food Waste Reduction table below and additional Food Waste Pilot Summary Tables in the appendix for more detail.)

Food Waste Reduction on Line 10		
	Granola	Green Lentils/Split Peas/ Pearl Couscous
Average reduction (in lb) <b>per lb</b> produced	0.0162	0.0573
Average reduction (in lb) <b>per pallet</b> produced	15	110
All Products Produced on Line 10		
Average reduction (%) <b>per lb</b> produced	71%	
Average reduction (%) <b>per case</b> produced	78%	

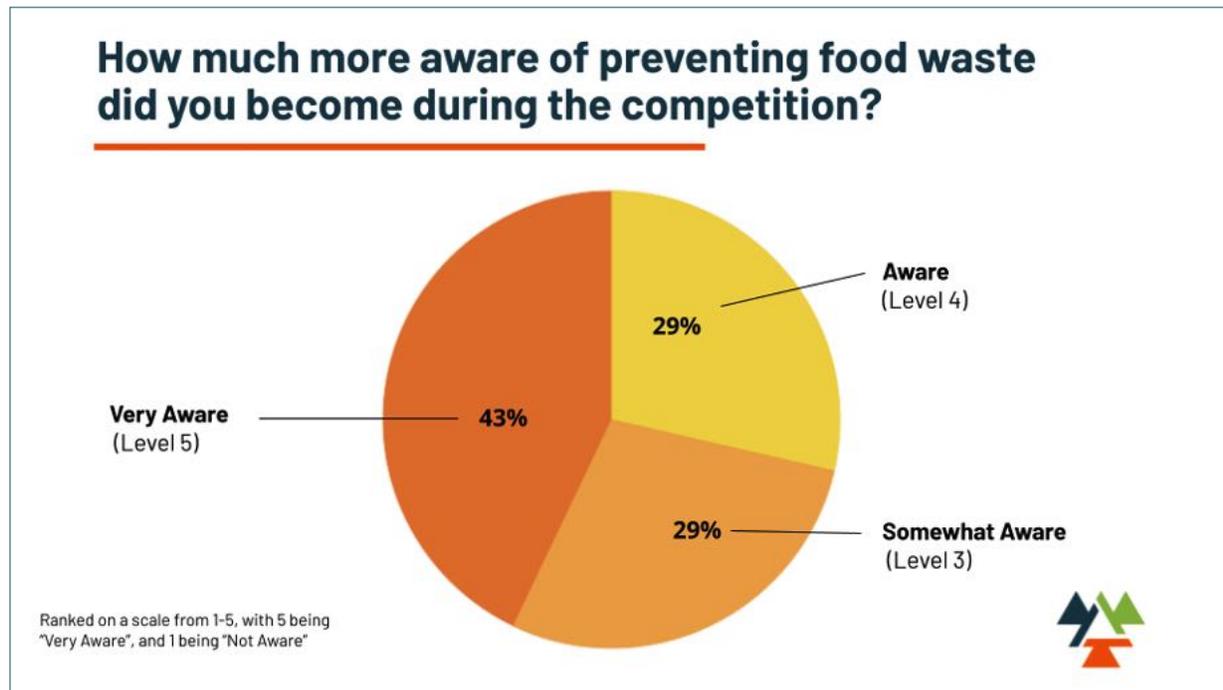
# Education, Awareness, and Excitement-Building

The multi-channel approach to education, awareness-building, and engagement led to a strong showing of support across the organization to develop new, meaningful actions on food waste. Employees enjoyed being rewarded for their insights and efforts, and participation in the five-week Food Waste Reduction Challenge exceeded everyone’s expectations. Of BRM’s 270 manufacturing plant employees, 60 (22%) submitted food waste reduction ideas—totaling 176 in all. Of BRM’s 635 employees, 181 (29%) watched the [educational food waste video](#), which is now required viewing for all current and new employees.

Post-pilot surveys were very positive overall, and confirmed that the effort also helped employees to increase their awareness and understanding around food waste reduction. (See post-pilot survey graphs from Food Waste Reduction Challenge found below and in the appendix for more detail.)



## Food Waste Reduction Challenge Survey, Question 4



# Key Learnings

This project was multi-faceted and conducted in collaboration with a very engaged food manufacturer that fully understands the value of reducing food waste to maximize its profits. BRM has a strong and committed relationship with its local community and is dedicated to supporting its well-being and health by diverting potential food waste via donation and recycling grains as animal feed. As an employee-owned company, BRM is run by a motivated workforce that first and foremost has its company's best interest in mind.

Based on the results of the pilot, survey responses from employees, and feedback from the BRM team, there were several key takeaways that emerged from the project:

- The new [food waste education video](#) was critical for building knowledge across the organization in a meaningful, comprehensive, and engaging way.
- Quick-win opportunities can have a sizable impact on reducing food waste and can pave the way to progressively bigger reduction efforts.
- Stronger internal communications over a longer period of time would have likely built more excitement and driven more employees to participate in the Food Waste Reduction Challenge.

As other organizations look to pursue this approach, the following is a quick, five-step strategy that worked for BRM, which can be replicated at similar manufacturing organizations within the food and beverage industry.

## Food Waste Reduction Strategy

- 1 Educate** employees on why reducing food waste matters and what they can do about it. Use materials that are fun, interactive, and tell a story. Emphasize quick facts that are relatable to employees' everyday experiences and provide examples of doable solutions that anyone can identify with and employ.
- 2 Collaborate** with all stakeholders throughout the process. Start with Gemba walks, solicit ideas and perspectives from employees, and communicate how their ideas and contributions will be utilized and further advanced.



- 3** **Build** excitement around food waste reduction opportunities from the start. Not all employees are engineers or analytical thinkers. Use strong visuals. Create challenges and provide incentives to keep motivation high. Show recognition of successes and celebrate individual/team contributors.
- 4** **Track** progress. Maintain a living Food Waste Opportunity Register. Define standard operating procedures and what will be measured. Measure data while initiatives are being implemented, as well as during the pre- and post-phases. Articulate learnings and what is replicable.
- 5** **Employ** a continuous improvement mindset. Categorize and prioritize food waste reduction opportunities. Communicate those priorities across the manufacturing organization. Build excitement. Keep momentum strong.



# Appendix

## Food Waste Quick-Win Pilot Summary Tables

Stage of Waste Audit	Average lb of Food Waste per Case of Product	Average lb of Food Waste per lb of Product
Pre-Adjustment	0.1546	0.0266
Post-Adjustment	0.0162	0.0573
<b>Grand Total</b>	<b>0.0878</b>	<b>0.0161</b>

Average lb of Food Waste per lb of Product Produced Product Type	Stage of Waste Audit	
	Pre-Adjustment	Post-Adjustment
13 Bean Soup Mix	0.0118	
Classic Granola	0.0179	
Green Lentils		0.0017
Green Split Peas	0.0587	
Honey Oat Granola		0.0016
OG Pumpkin Seed		0.0237
Pearl Couscous		0.0009
Red Bulgur + Veggie Soup Mix + Pearl Barley		0.0111
<b>Grand Total</b>	<b>0.0266</b>	<b>0.0078</b>

Orange Highlighted Data:  
Like-grains processed

Green Highlighted Data:  
Like-products processed

Food Waste Reduction Challenge Survey Response, Question 2



Food Waste Reduction Challenge Survey Response, Question 3



# Acknowledgments

The PCFWC would like to thank Julia Person and Bob's Red Mill's incredible employees, as well as TripleWin Advisory LLC, for developing this project.



## About Bob's Red Mill

Bob's Red Mill is 100% employee-owned and a leader in nutritious, organic and gluten free foods. The company's mission of "Inspiring Joy with Wholesome Foods™" is backed by a diverse line featuring more than 200 products, including whole grains, stone-ground flours, oats, baking mixes, snacks and more. The company was founded by Bob Moore in 1978. In 2010, Bob created an Employee Stock Ownership Plan that made everyone employee-owners, and today, 93-year-old Bob continues to serve as President of Bob's Red Mill, where he continually inspires the company's 700-plus employee-owners with his passion for nutrition and entrepreneurship. Bob's Red Mill is located in Milwaukie, Oregon, just outside of Portland.

Visit [www.bobsredmill.com](http://www.bobsredmill.com) for more information.

## About TripleWin Advisory

TripleWin is a sustainability consultancy focused on the education and implementation of business circularity within industry. We offer a specific set of "tools" to companies that allow them to measure and mitigate their environmental impact, take a stakeholder-centric approach to sustainability, develop circular business models that are innovative and brand differentiating, and build engagement in and knowledge of sustainability amongst employees. TripleWin is a woman-founded and woman-led public benefit company headquartered in the state of Oregon.

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## About the Pacific Coast Food Waste Commitment

[The Pacific Coast Food Waste Commitment \(PCFWC\)](#) began in June 2016, when the PCC entered into the Pacific North American Climate Leadership Agreement and committed to advance organic waste prevention and recovery initiatives to reduce carbon emissions from the region's food waste stream. U.S. leaders in the food industry were invited to collaborate with area jurisdictions in a public-private commitment to cut the amount of wasted food in half by 2030 – a success metric aligned with United Nations Sustainable Development Goal 12.3 and other global, national, and regional commitments. To assist in moving the initiative forward, the PCC established collaborations with ReFED, WRAP, and World Wildlife Fund (WWF) as resource partners to provide expertise, additional philanthropic funding, and capacity for implementation. Cascadia Policy Solutions serves as facilitator for the effort and has provided foundational and ongoing critical support to the PCFWC since its inception.



## Signatory Members

As of Fall 2022



## About the Pacific Coast Collaborative

The Pacific Coast of North America represents the world's fifth-largest economy, a thriving region of 55 million people with a combined GDP of \$3 trillion. Through the Pacific Coast Collaborative (PCC), British Columbia, Washington, Oregon, California, and the cities of Seattle, Portland, San Francisco, Oakland, Los Angeles, and Vancouver, British Columbia are working together to build the sustainable low-carbon economy of the future. King County in Washington and Alameda County in California have since joined alongside the PCC jurisdictions in signing on to and supporting the PCFWC. Formed in 2008, the PCC has established ambitious goals for reducing greenhouse gas emissions by at least 80 percent by the year 2050 through the transformation of energy systems, buildings, and transportation, and through food waste management – all of which would serve as a model for national and global action.