

# REPURPOSE WITH A PURPOSE™

—  
OPERATIONAL TOOLKIT



MENUS OF CHANGE  
UNIVERSITY RESEARCH COLLABORATIVE

*in collaboration with*





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**Overproduction is the second largest cause of food waste in foodservice, behind plate waste, and the first largest related to back of house (production) operations.**

You are a restaurant manager, a chef, a dining operator, a sustainability manager, or kitchen staff. You want to address overproduction of your kitchen in ways that save money, time, and effort, while maintaining high quality and strong diner satisfaction from the overall food experience you offer.

As members of the Menu of Change University Research Collaborative, we are a team of culinary and sustainability experts who work together to find practical, evidence-based strategies to

reduce and prevent food waste. This toolkit is for you.

You can find the operational research behind this toolkit here: [\*Report - Repurpose with a Purpose\*](#)

**Repurposing—which involves reusing overproduced food items in new and innovative ways—requires a mindset shift at several levels of operations. From menu strategy and production planning to daily operations and process evaluation, small adjustments can lead to significant improvements. We hope this toolkit will help you in your sustainability journey!**

*—MCURC's Executive Chef  
Committee Chairs*

# REPURPOSE WITH A PURPOSE ROADMAP

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## GETTING STARTED

- Conduct an initial assessment of current food waste
- Identify high-cost, high-waste food items
- Establish a baseline for food purchases and waste



## MENU PLANNING STRATEGIES

- Leverage your menu management system
- Simplify your menu
- Replace a ready-made purchased product with a repurposed recipe
- Swap a recurring or existing item for a repurposed version



## PRODUCTION STRATEGIES

- Leverage a commissary or central production model
- Challenge your production team, while enhancing morale



## DAILY OPERATIONS STRATEGIES

- Keep dish components separate
- Make space for specials



## SERVICE STRATEGIES

- Repurpose in catering
- Separate served components too
- Cut smaller pieces
- Try self-served vs. staff-served



## EVALUATION

- Continuously evaluate high-cost, high-waste food items
- Monitor diner satisfaction
- Evaluate staff engagement and morale



# GETTING STARTED

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## ORIGIN OF WASTE

Not all foods can be repurposed, as there can be food safety concerns or operational constraints. Here is a quick overview of what can or cannot be repurposed.



### Foods that have been kept back of house following these rules:

- Proper temperature control: Hot holding of 140°F/57°C or higher, cold holding of 41°F/5°C or lower.
- Two-hour rule: food can only be kept in the “danger zone” (40°F to 140°F) for up to two hours before it must be reheated, cooled, or discarded.

### Leftovers and Scraps

Some examples in this toolkit include:

- Vegetable stems and peels: broccoli stems, carrot shavings, cilantro stems, just to name a few
- Fruit trimmings and overripe Fruits
- Meat trimmings and bones
- Bread ends

**Previously Served Items:** Once food items have been served to the public, they cannot be reused due to food safety regulations.

**Highly Perishable Items:** Items that deteriorate quickly or have been out of temperature control for extended periods.

**Composed Salads and Sandwiches:** Once these items have been on a food bar, they cannot be recovered or repurposed.

**Four-Hour Rule:** Even if it hasn't been served, if the food has been kept out of temperature control for more than four hours, it must be discarded regardless of appearance or smell.

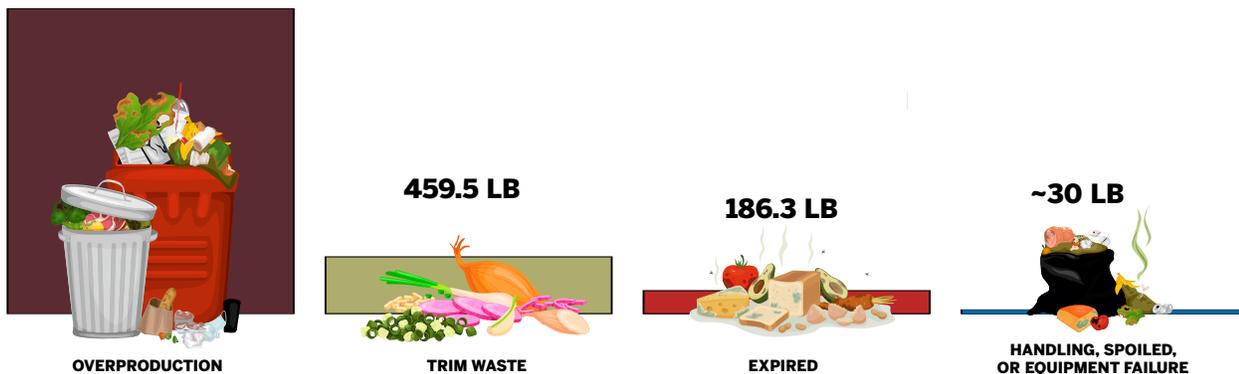
**Food Items That Lose Integrity:** Foods that cannot maintain their quality, safety, or flavor upon repurposing.

**Logistical Challenges:** Items that do not have sufficient volume to make repurposing worthwhile or those that require extensive labor and time to repurpose.

## CURRENT FOOD WASTE ASSESSMENT

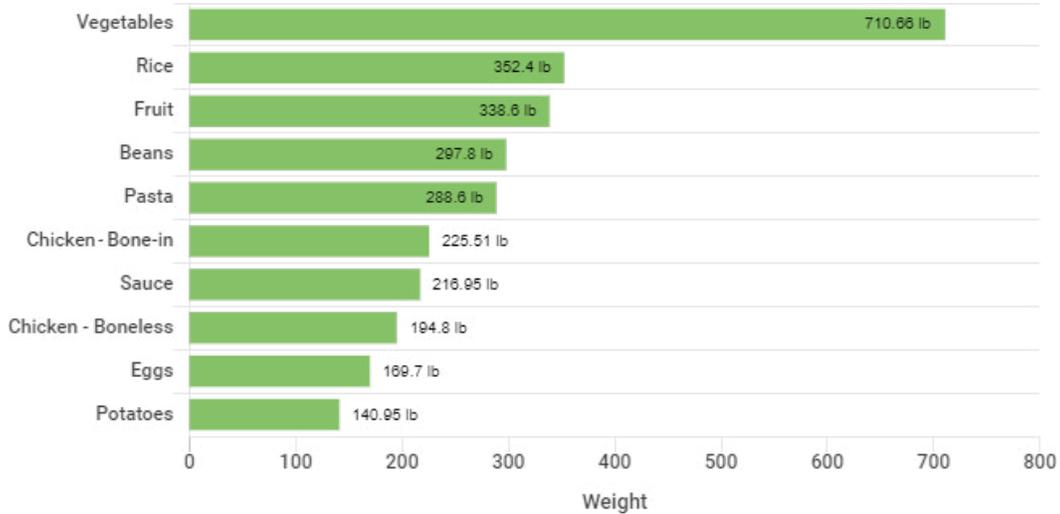
When setting up your operations to increase repurposing of food that would otherwise be wasted, start by analyzing the data you have collected—whether through a food waste management system or by your team’s manual logs.

**3462.52 LB**



Graph 1: Origin of food waste – sample report from Leanpath (food waste tracking technology)

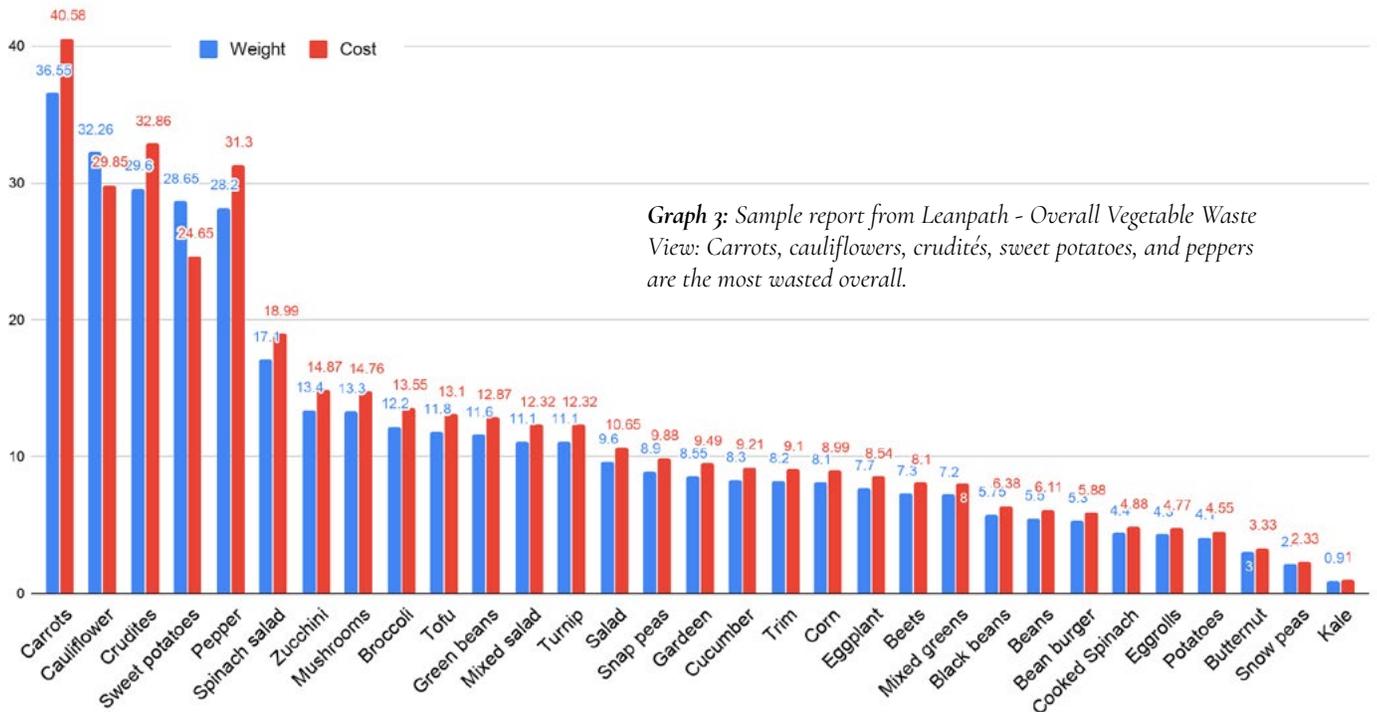
Once you have selected the origin of food waste from a source that allows you to repurpose (trim or overproduction are safe bets), identify the wasted foods that have the highest volume and costs. Sometimes it requires diving in a few levels (for example, "vegetables" is usually a category that includes many different types of foods).



Graph 2: Origin of food waste – sample report from Leanpath (food waste tracking technology)

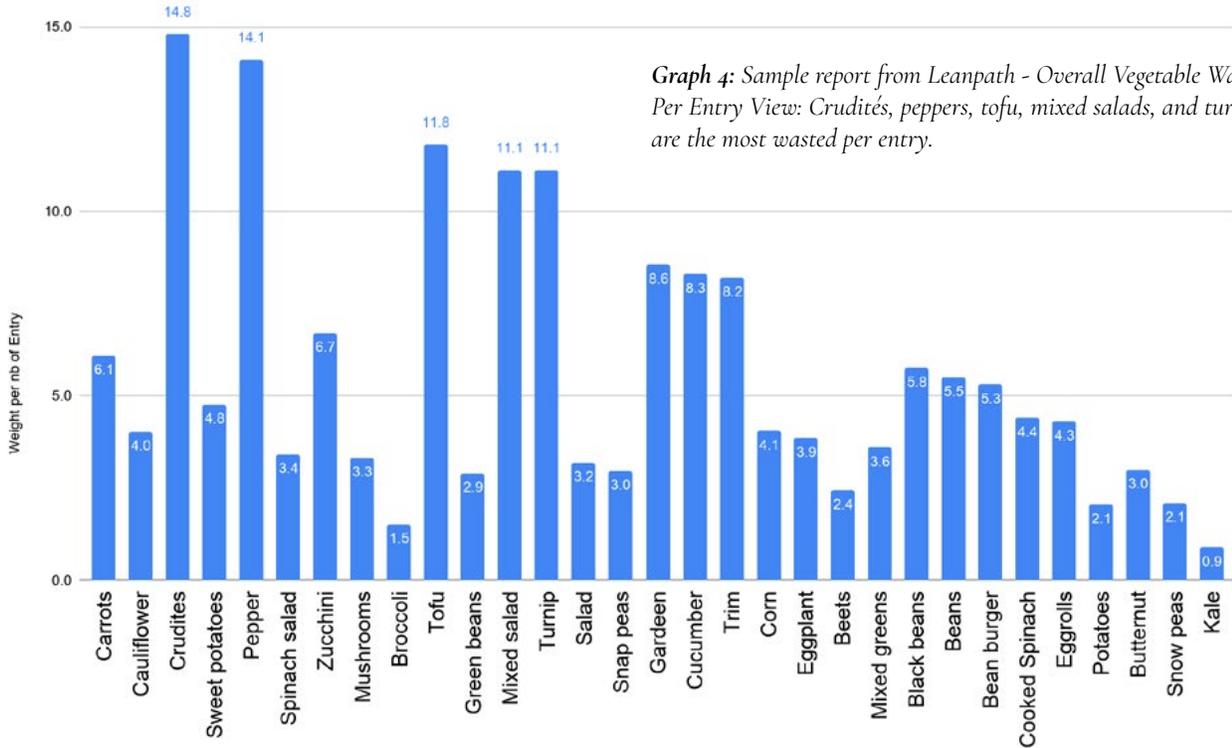
## IDENTIFY HIGH-COST, HIGH-VOLUME WASTE

Cleaning the data a bit further allows you to identify which foods are the most wasted overall (which might depend on the frequency of serving, see graph 3), and which foods are the most wasted per entry made by staff in the tracking system (which will allow you to understand your truly highest volume wasted, see graph 4 on the next page).



Graph 3: Sample report from Leanpath - Overall Vegetable Waste View: Carrots, cauliflowers, crudites, sweet potatoes, and peppers are the most wasted overall.

Food waste tracking systems like Leanpath allow analyzing the data more precisely through a “per entry” view. Small volumes per entry are expected, especially in all-you-care-to-eat environments where a variety of food is offered until the end of the shift. If an item is offered in multiple locations, like carrots could be on the salad bar and side dish station, it shows as a highly wasted vegetable overall. However, when looking at graph 4, we see that the highest waste per entry are crudites, peppers, tofu, mixed salads, and turnips. This analysis provides an opportunity to prioritize recipes that repurpose these foods. Capturing this level of detail also helps inform teams of any trends over time. These items could also be offered less often on a menu if they consistently show low movement or sales.



**Graph 4:** Sample report from Leanpath - Overall Vegetable Waste Per Entry View: Crudites, peppers, tofu, mixed salads, and turnips are the most wasted per entry.

## BASELINE FOR FOOD PURCHASED AND WASTED

The next step is to review your purchasing data to establish your baseline and enable your organization to track progress on the identified foods. Most dining operations use a cycle menu, allowing you to compare the different phases of your cycle and evaluate the effectiveness of your food waste reduction strategies.

CALCULATING YOUR FOOD PURCHASED/WASTE RATIO						
FOOD ITEM	CYCLE 1 FOOD PURCHASED (LBS)	CYCLE 1 WASTE (LBS)	CYCLE 1 FOOD PURCHASED/WASTE RATIO	CYCLE 2 FOOD PURCHASED (LBS)	CYCLE 2 WASTE (LBS)	CYCLE 2 FOOD PURCHASED/WASTE RATIO
FOOD 1	XX lbs	AA lbs	AA/XX %	XX lbs	AA lbs	AA/XX %
FOOD 2	YY lbs	BB lbs	BB/YY %	YY lbs	BB lbs	BB/YY %

**Table 1:** Calculating Your Food Purchased/Waste Ratio



# MENU PLANNING STRATEGIES

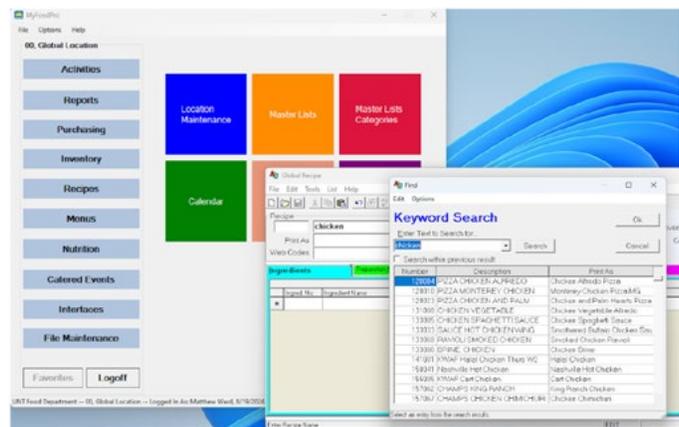
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## LEVERAGE YOUR MENU MANAGEMENT SYSTEM

A menu management system is a valuable tool used by restaurants and foodservice operations to create, optimize, and maintain their menus across multiple locations and platforms, ensuring consistency, efficiency, and profitability.

These systems also play a crucial role in achieving zero waste goals. Once you have identified the most wasted foods, you can use your menu management system to find or create recipes that utilize these foods, reducing overproduction. Additionally, the forecasting function can guide more informed purchasing decisions.

Customize your menu management system to encourage repurposing in a way that works with the overall menu production plan, and empower cooks to learn and use the system to reduce overproduction and waste.



**Functions like forecasting**, available with some solutions, can help calculate the average take rate of various items, which helps reduce overproduction and allows for analysis of food waste averages by recipe.

**The keyword search function** allows cooks to search for recipes that utilize an available ingredient, making it easy to repurpose using existing recipes in the menu system. This means that repurposing can be integrated into daily production for any dish type on the line.



*“We take the patron counts, and then we calculate the take rate to continue to right-size production and reduce waste. Rather than weighing the product, we keep waste low by tracking the percentage of take rate to leftover food. We then know how much is available of a product to flow into something else for production, to minimize waste.”*

—UCLA Dining Services

## SIMPLIFY YOUR MENU

A set of qualitative interviews conducted by R&DE Stanford Dining, Hospitality and Auxiliaries (SDHA) showed that students linked menu variety with very specific menu items, in particular the presence of meat and berries. Serving these items strategically—both frequently and creatively, as condiments or as part of a Protein Flip—was shown to satisfy diners. Thanks to a better understanding of what is popular, SDHA was able to reduce food waste and keep the carbon footprint and costs within a sustainable range.

Simplifying a menu can be achieved through various methods:

- **Cross-Utilize Ingredients:** Use the same ingredients across multiple dishes to reduce waste and streamline inventory. For example, the same vegetables can be used in salads, soups, and main courses, which makes labor more efficient and reduces the variety of ingredients needed.
- **Incorporate Daily Specials:** Use daily or weekly specials to introduce variety without expanding the main menu. This keeps the menu dynamic and interesting while allowing flexibility to use seasonal or surplus ingredients. Ensure you are tracking food waste associated with the daily special to inform whether you will repeat the offering in a future menu cycle.
- **Allow Customization:** Empower customers to customize their orders by offering build-your-own. This not only caters to diverse dietary preferences and restrictions but also enhances the dining experience by giving customers more control over their meals. Customization options can help simplify the core menu while still providing variety and personalization, thus maintaining customer satisfaction without the complexity of a large menu.

**Simplifying menus can also save prep time in the kitchen.** The Harvest dining hall at Rutgers University is designed for sustainability, efficiency, and health. It's also the most popular outlet on campus. The menu is simple intentionally, with adaptable components that make space for repurposing among the kitchen team. The head chef has built a culture of repurposing and sustainability, so that each team member is thinking about what could be used within the simple framework of the menu. The creative use of ingredients that would otherwise be wasted makes for flavorful menus creatively showcased to the students.



*“Instead of having a vegetarian dish and a meat dish, all our options are vegetarian or vegan. We offer students the possibility to add a two-ounce portion of animal protein, so the choice of consuming meat is an active one for the students. It does have a huge impact on our consumption of animal proteins: The Harvest dining hall at Rutgers had about 97,000 transactions from January to October when another dining hall did 55,000 transactions. In that same time, we used less than 5,000 pounds of animal protein, when they used 15,000 pounds.”*

—Rutgers University Dining Services

## REPLACE A READY-MADE PURCHASED PRODUCT WITH A REPURPOSED RECIPE

Extending the repurposing approach to other stations, for example beverages or the salad bar, can help identify opportunities for cross-utilization.

**By extending the life of a high-cost ingredient, like pineapple, the team was able to realize a cost savings of \$3,844 over the treatment period. But more importantly, they were able to upcycle a food that would otherwise be wasted, with no additional labor or downside.**

## SWAP A RECURRING OR EXISTING ITEM FOR A REPURPOSED VERSION

Looking at the salad bar, Vanderbilt Dining chose to develop a slaw recipe that could replace a purchased item; this helps manage overall costs as prices fluctuate. They are able to realize value savings through staff training that helps the team prioritize cost-saving habits like separating out and utilizing the stems and stalks of commonly used ingredients like broccoli and cilantro.



*“We’re doing a broccoli slaw that’s literally using cilantro stems, carrot shavings, and broccoli stalks...We wanted to make something that was manageable and reproducible using things we continually throw away.”*

*—Vanderbilt University Dining Services*

Increasing food costs necessitate innovative approaches to maintain value and reduce expenses. Utilizing repurposed ingredients is an effective strategy, minimizing waste and enhancing sustainability. As a response, repurposing ingredients reduces overall costs. For Vanderbilt, turning 10 pounds of broccoli stalks into slaw for an existing station can significantly cut expenses. Each case of broccoli yields three pounds of stalks, reducing the need to purchase pre-made mixes, such as a \$27 slaw mix. There is also better quality assurance and shelf life when from-scratch preparation is done in-house than when sourcing pre-cut.



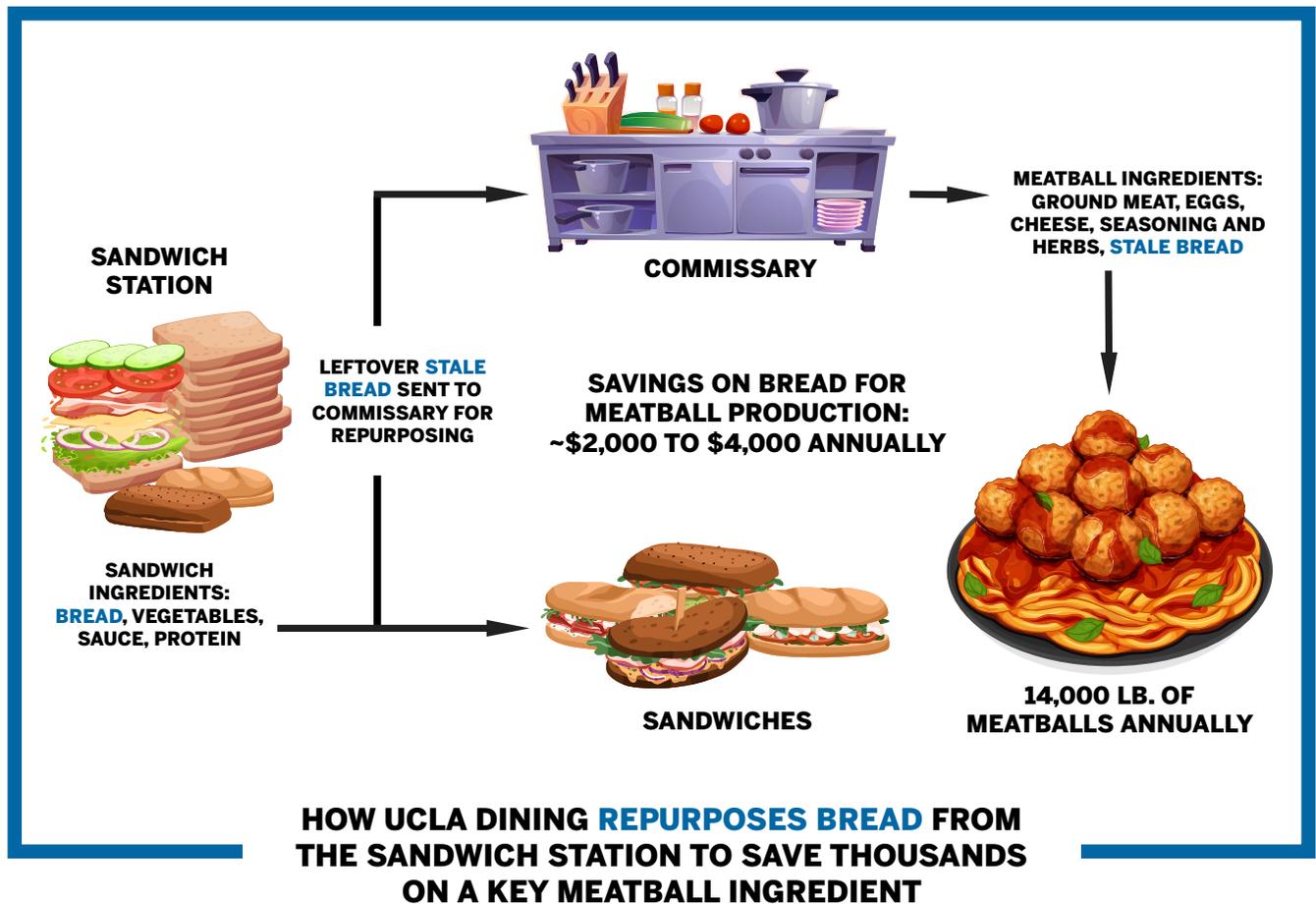
# PRODUCTION STRATEGIES

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## LEVERAGE THE COMMISSARY MODEL

A centralized production facility that serves multiple locations creates a strategic opportunity to collect surplus or leftover food from all these sites, funnel it into one place, and efficiently repurpose it into new dishes. Planning for reuse of available ingredients at a commissary allows for greater cost savings and smart use of labor, keeping an overall operation lean and nimble even at scale. UCLA's commissary model is a great example of a well-organized and efficient operation that leverages a robust menu management system with real-time data that allows for repurposing in daily commissary production.

## UCLA'S REPURPOSED STALE BREAD CASE STUDY



White and wheat bread are cubed and turned into breadcrumbs every 10 days. The repurposed bread crumb replaces 100% of the bread used in recipes like their meatballs. If UCLA purchased bread crumbs or panko for this recipe, it would cost ~\$4,000 annually.

Even if UCLA produced bread for making breadcrumbs, rather than utilize what is available to repurpose at the commissary, the meatball recipe would cost ~\$2,000 more annually. While this amount is a tiny part of their overall food cost, decisions like this add up when leveraging a commissary model to reduce recipe costs and pre-consumer food waste.

CULTIVATE A CULTURE OF CREATIVITY	ESTABLISH CLEAR OBJECTIVES AND METRICS	ENGAGE STAKEHOLDERS	DEVELOP AND SHARE RESOURCES	IMPLEMENT AND MONITOR PRACTICES	PROMOTE AND CELEBRATE SUCCESSES
<p><b>Training:</b> Provide regular sessions on repurposing techniques.</p> <p><b>Platform:</b> Enable ideation and best practices sharing.</p>	<p><b>Goals:</b> Obtain clear baselines as the starting point, and define specific targets for waste reduction and cost savings.</p> <p><b>Tracking:</b> Identify metrics for food waste, cost savings, and engagement.</p>	<p><b>Involvement:</b> Include chefs, staff, sustainability managers, students.</p> <p><b>Brainstorming:</b> Set up regular sessions for new ideas. Get buy-in: Ensure support from all levels.</p>	<p><b>Toolkit:</b> Provide tangible elements such as recipes, case studies, templates.</p> <p><b>Visual Aids:</b> Display charts and diagrams to illustrate benefits and processes.</p>	<p><b>Pilot Program:</b> Start at select sites.</p> <p><b>Monitoring:</b> Gather feedback and adjust practices.</p>	<p><b>Communication:</b> Share success stories and outcomes.</p> <p><b>Recognition:</b> Reward innovative contributions.</p> <p><b>Motivation:</b> Highlight environmental and financial benefits.</p>

Table 2: Key Strategies To Support Your Team And Provide Practical Ideas For Applying Them Effectively

## CHALLENGE YOUR PRODUCTION TEAM AND ENHANCE MORALE

Repurposing food in institutional kitchens significantly boosts team engagement and creativity, leading to enhanced morale among staff. For instance, at the University of Reading, kitchen staff creatively repurposed vegetable trimmings, generating new recipe ideas and achieving cost savings. This initiative saw team members at all levels actively participating and thinking outside the box.

Creative examples, such as using banana peels for a pulled pork-style dish at the University of North Texas, have inspired further innovative ideas. At Boston University, popular dishes like chicken and salmon croquettes were developed from traditionally wasted parts, emphasizing the impact of repurposing.



*“Staff really engaged in it... it really got their creativity buzzing.”*  
—University of Reading Executive Head Chef

*“More of a morale gain for repurposing as it gives chefs a sense of pride.”*  
—Alex Sim, Development Chef, University of Bristol Dining Services

*“It’s a “challenge”... how can we really utilize that and make it taste good?”*  
—Vanderbilt University Dining Services

Repurposing helps break the monotony of core rotating menus, fostering continuous creative discussions among staff, as observed at R&DE Stanford Dining, Hospitality & Auxiliaries. Overall, engaging in repurposing practices not only provides financial benefits but more importantly, it cultivates a supportive and creative work environment, enhancing team morale and pride in sustainable practices.



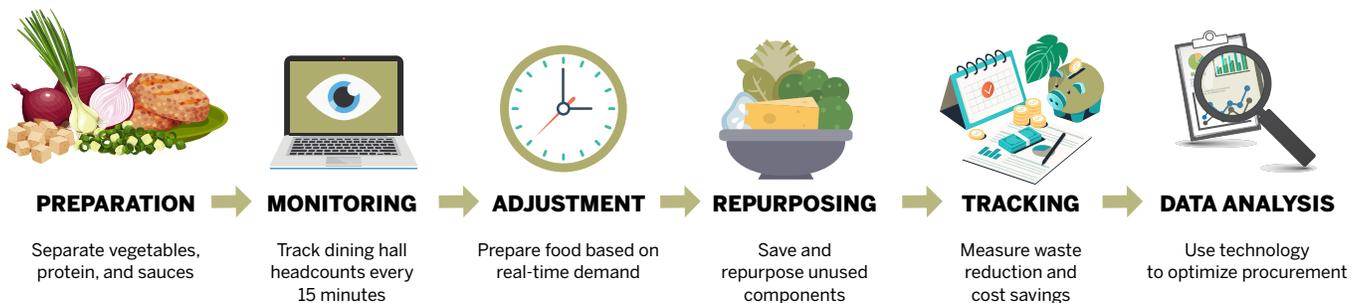
# DAILY OPERATIONS STRATEGIES

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## KEEP COMPONENTS SEPARATE

Holding prepped ingredients ready for à la minute cooking is a smart production strategy that helps reduce overproduction and enables the repurposing of ready, uncooked recipe components. This approach to separating recipe components can extend to creative service models that reduce waste.

### Innovative À La Minute Cooking and Strategic Procurement: Stanford Dining’s Approach to Reducing Food Waste and Maximizing Cost Savings



R&DE Stanford Dining, Hospitality & Auxiliaries leverages à la minute cooking at scale in their dining halls, even during the busiest meal periods. Cooks are able to have the recipe components ready to mix and finish, but will watch headcounts in the dining halls at 15-minute increments so that the staff can be responsive. The cooks are prepared to mix everything if it’s very busy, or save anything that won’t be needed during that meal period. By keeping vegetables, protein, and sauce components separate, there is a greater opportunity to creatively repurpose components into future meal periods without serving “leftovers” from one meal to another. While Stanford averages ~1,500 lb. of pre-consumer food waste monthly, almost all of it gets repurposed using techniques such as this to minimize uneaten, unusable food.

Through use of Leanpath technology and smart production strategies, Stanford has already realized purchasing reductions of ~200-300 lb. of food daily, which equate to substantial cost savings. As food costs increase, a purchasing reduction of ~6,000-9,000 lb. of food each month enables strategic procurement choices and budget adherence.



*“At UNT, we might have all the spinach washed and the onions cut and the bacon ready to go, but we haven’t sautéed all the spinach for service so that if it’s not utilized, it’s still a fresh ingredient that has a longer shelf life and that we can use in other ways.”*

—Sarah Kettelhut, Director of Dining Services, University of North Texas

## MAKE SPACE FOR SPECIALS

Creating and serving repurposed menu items can be challenging in large-scale collegiate dining programs, especially when limited by space and the need to accumulate sufficient trim for full recipes. Specials offer a practical solution to these challenges by allowing for creative and flexible use of on-hand ingredients. By keeping recipe components separate, managing menus efficiently, and cooking in small batches, dining programs can minimize overproduction. Specials provide an appealing opportunity for chefs to experiment and make the most of available ingredients, while also enticing customers with the allure of limited-time offerings.

### REASONS TO MAKE SPACE FOR SPECIALS

#### CHALLENGES



**LIMITED SPACE FOR STORING REPURPOSED ITEMS**



**DIFFICULTY IN ACCUMULATING SUFFICIENT TRIM FOR FULL RECIPES**

#### STRATEGIES



**EFFICIENTLY MANAGE MENUS TO MINIMIZE OVERPRODUCTION**



**KEEP INGREDIENTS SEPARATE TO ALLOW FLEXIBILITY**



**COOK IN SMALL BATCHES OR TO ORDER**

### BENEFITS OF MAKING SPACE FOR SPECIALS



**CREATIVE USE**

Chefs can experiment with on-hand ingredients



**WASTE REDUCTION**

Minimizes pre-consumer food waste



**CUSTOMER APPEAL**

The allure of limited-time offerings



**ECONOMIC BENEFIT**

Enhances the bottom line by diverting food from waste



## SERVICE STRATEGIES

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## REPURPOSED CATERING

Catering can be a perfect outlet for utilization of ingredients and menu components that have been held at safe temperatures and that need a new outlet. Build catering menus with flexibility, so that chefs can creatively repurpose what's available rather than purchase and prepare new menu items from scratch. This saves both time and money, and in many cases, can create positive messaging and storytelling for the eaters.

**At San José State University, chefs staged a student-facing event in their community garden featuring a delightful menu that just happened to feature the repurposed ingredients shared in this toolkit (see the [Pumpkin Chowder](#) and [Drunken Noodles with Tofu](#) recipes). The chefs and sustainability manager communicated their repurposed approach to the menu and were met with enthusiasm and support for the environmental effort.**



**Similarly, chefs at Boston University have featured repurposed menus as part of catered events for senior university administrators and students. The culinary team developed over a dozen creative, delicious, and primarily plant-based repurposed recipes utilizing ingredients otherwise wasted as trim or overproduction. They were able to upcycle a food that would otherwise be wasted, with no additional labor or downside.**

At both events, guests enjoyed their meals without knowing the story behind the recipes until just before dessert, when the culinary team explained how all of the ingredients had been repurposed and transformed into new menu items. Guests were not only impressed by and in support of the sustainability impact of the meal, but also the culinary creativity.

It's important to keep in mind that some repurposed menu items can have overall cost savings (e.g. making bread pudding out of leftover breakfast pastries), while others might have a low or zero food cost, but might be labor-intensive to produce (e.g. repurposing butternut squash soup into filling for homemade tortellini), and actually end up costing more money overall than a non-repurposed menu item. Balancing the level of added labor required for repurposed recipes on a menu is crucial.

## SERVE MENU COMPONENTS SEPARATELY

Serving separate components at diner-facing service stations is a strategic approach to reducing end-of-day waste and facilitating easier repurposing of ingredients. By separating elements like noodles from broth in soups, as practiced at Stanford Dining, Hospitality & Auxiliaries, dining halls can better control portions and avoid dumping mixed leftovers. This method allows for flexible replacement of ingredients, such as switching sliced chicken with tofu and green onions, depending on availability and demand. Downsizing service vessels, plates, and spoon sizes during service rushes further minimizes waste, as does controlling portion sizes for expensive or less sustainable items. Placing less sustainable items at the end of the buffet in smaller vessels and more abundant plant-based items at the beginning encourages healthier choices and reduces waste. Changing self-serve stations to serviced stations for high-cost items has proven effective in significantly lowering waste and costs, as evidenced by Stanford Dining, Hospitality and Auxiliaries' success in reducing orders of animal protein by about 300 pounds daily.

## CUT SMALLER PIECES

Cutting food into smaller pieces helps reduce waste by creating the perception of abundance, allowing students to take less while feeling satisfied. This method also ensures a more even distribution of high-cost ingredients, such as meat, and minimizes leftovers, ultimately leading to significant reductions in food waste and costs.

## SELF-SERVED VS. STAFF-SERVED

When considering the implementation of self-served versus staff-served stations in a dining environment, it's crucial to weigh the pros and cons of each approach. While self-served stations offer greater speed and flexibility for students, they may lead to higher waste and food costs. On the other hand, staff-served stations provide better portion control and health safety, but require more staffing and can slow down service. Understanding these trade-offs can help in making informed decisions that align with your operational goals and priorities.

	 <b>PROS</b>	 <b>CONS</b>
		
	<b>SELF-SERVED STATIONS</b>	<b>STAFF-SERVED STATIONS</b>
<b>CONTROL OVER PORTIONS</b>	<b>Con:</b> Students often over-serve themselves, leading to more waste.	<b>Pro:</b> Staff controls portion sizes, reducing food waste.
<b>SPEED</b>	<b>Pro:</b> Faster as students serve themselves.	<b>Con:</b> Can be slower because staff has to serve each student.
<b>FLEXIBILITY</b>	<b>Pro:</b> Students can choose exact portions and combinations.	<b>Con:</b> Staff may allow some customization, but less flexible.
<b>STAFFING REQUIREMENTS</b>	<b>Pro:</b> Requires fewer staff members for monitoring.	<b>Con:</b> Requires more staff to serve the food.
<b>WASTE GENERATION</b>	<b>Con:</b> Over-serving leads to higher food waste.	<b>Pro:</b> Controlled portions reduce waste significantly.
<b>COST</b>	<b>Con:</b> Higher food costs due to more waste.	<b>Pro:</b> Lower food costs as waste is reduced.
<b>CUSTOMER EXPERIENCE</b>	<b>Con:</b> Quality and portion size can vary depending on students' serving habits.	<b>Pro:</b> More consistent experience, as staff ensures quality and portion control.
<b>HEALTH &amp; SAFETY</b>	<b>Con:</b> Higher risk of contamination from multiple students handling utensils.	<b>Pro:</b> Better hygiene control as fewer people handle the food.

Table 3: Balancing Pros and Cons: Self-Served vs. Staff-Served Dining Stations

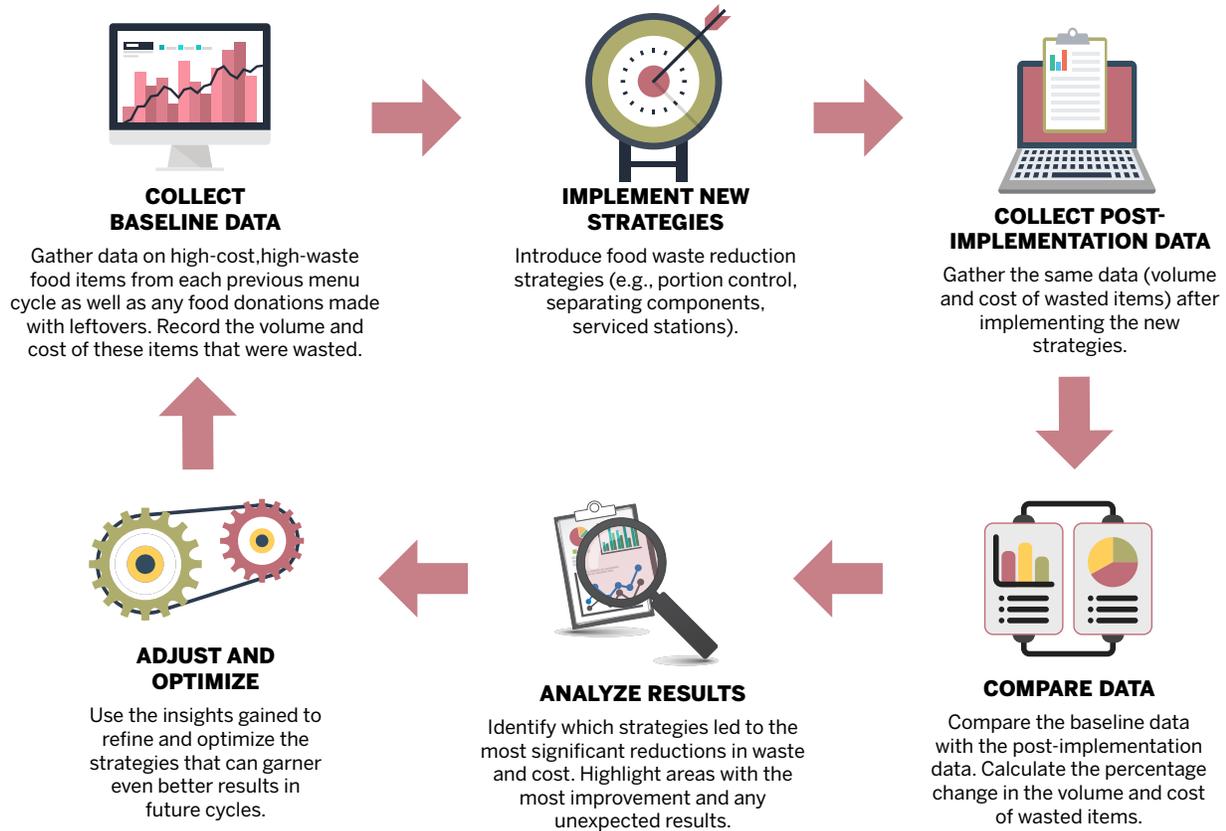


# EVALUATION

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## COMPARE THE EVOLUTION OF HIGH-COST AND HIGH-WASTE FOOD ITEMS GENERATED WITH THE PREVIOUS MENU CYCLE.

To evaluate different food waste reduction strategies, compare the evolution of high-cost, high-waste food items generated with each previous menu cycle. This involves analyzing data on food waste and costs before and after implementing new strategies. Track key metrics such as the volume and cost of wasted ingredients, changes in purchasing patterns, and the overall reduction in food waste. By comparing these metrics across different menu cycles, you can examine the effectiveness of each strategy, highlight areas of improvement, and make informed decisions to optimize waste reduction efforts and cost savings.



## MONITOR DINER SATISFACTION

To monitor diner satisfaction, regularly gather feedback through surveys, comment cards, and direct interactions. Use online tools like QR codes linking to digital surveys and encourage clients to share their dining experiences. Analyze the feedback to identify trends and areas for improvement.



*To monitor client satisfaction effectively, one widely-used tool is the Net Promoter Score (NPS). NPS measures customer loyalty by asking clients to rate their likelihood of recommending the service to others on a scale from 0 to 10. Customers are categorized into promoters (9-10), passives (7-8), and detractors (0-6). The score is calculated by subtracting the percentage of detractors from the percentage of promoters. Regularly collecting NPS data helps track overall client satisfaction and loyalty over time.*

Other key satisfaction indicators include repeat visits, customer complaints, and compliments. Creating a culture of customer feedback-sharing within the team and asking diners regularly how much they enjoy the food program or how you could enhance it are key to ensure high satisfaction and identify areas for improvement.

## EVALUATE STAFF ENGAGEMENT AND MORALE

Evaluating staff engagement and morale, particularly in the context of creative repurposing projects, requires a multifaceted approach. To evaluate it, conduct regular anonymous surveys and feedback sessions to gather insights on their job satisfaction, workload, and work environment. Monitor key indicators such as turnover rates, absenteeism, and productivity levels.

Key indicators of engagement include the degree to which staff actively participate in creative initiatives, as observed through their willingness to contribute ideas and their overall enthusiasm for tasks. Encourage open communication by holding 1:1 meetings and team discussions. Additionally, recognize and reward staff contributions. Morale can be gauged through staff pride in their work, particularly in sustainability-focused initiatives. Positive morale is often reflected in how staff perceive the importance of their contributions, as seen when chefs and kitchen staff express satisfaction in reducing waste and improving sustainability.



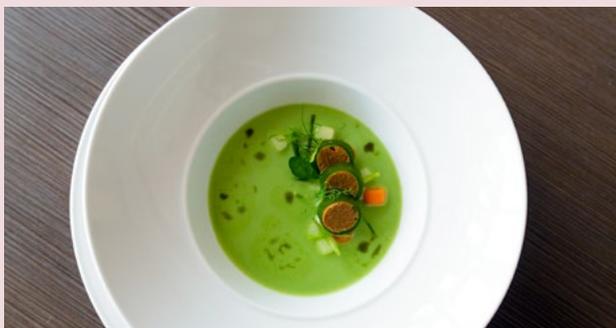
*“Creating a kitchen culture of repurposing deepens worker engagement and provides a supportive environment for creative expression.”*

—Rutgers University Dining Services

*“Repurposing transforms routine kitchen tasks into dynamic opportunities for innovation, motivating staff to think creatively and collaboratively. It not only disrupts the monotony of a core rotating menu but also engages the team at a deeper level, sparking continuous discussions on how to maximize every ingredient. This process fosters a culture of ingenuity, where staff feel empowered to contribute new ideas, enhancing both team morale and operational efficiency.”*

—Executive Chef, Stanford Dining, Hospitality and Auxiliaries

Monitoring these elements, alongside regular feedback and thematic reviews, can provide comprehensive insights into the levels of engagement and morale within the team.



*“There is a small financial gain overall for repurposing...[but there is] more of a morale gain for repurposing, as it gives chefs a sense of pride in repurposing and reducing waste.”*

—Alex Sim, Development Chef,  
University of Bristol Dining Services



# JOIN THE MOVEMENT TOWARD SUSTAINABLE CULINARY PRACTICES

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Thank you for exploring our toolkit on creative repurposing and food waste reduction. We invite you to join the Menus of Change University Research Collaborative (MCURC) community, where chefs, sustainability professionals, and academic institutions come together to lead the way in transforming the foodservice industry.

Whether you're interested in learning from peers, accessing a wealth of MCURC resources, or have questions about this toolkit, we're here to help. The MCURC offers a platform for collaboration, innovation, and knowledge-sharing, empowering you to make impactful changes in your dining operations.

# CONTACT US

For inquiries about this toolkit, to learn more about joining MCURC, or to connect with chefs and sustainability leaders within our network, please reach out to us:

## FOR GENERAL OR RESEARCH INQUIRIES

### Abby Fammartino

Director, Health & Sustainability Programs and Research, Strategic Initiatives Group, The Culinary Institute of America

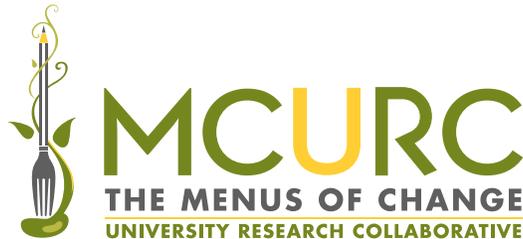
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**Explore more about our initiatives, access additional resources, and discover how you can contribute to a more sustainable future in foodservice.**

**Visit us at**

[www.moccollaborative.org](http://www.moccollaborative.org)



## ABOUT ReFED

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ReFED is a U.S.-based nonprofit that catalyzes the food system toward evidence-based action to stop wasting food. We work to increase adoption of food waste solutions across the supply chain by cultivating and convening the food community, delivering actionable evidence and insights, and seeding and accelerating promising initiatives. Our vision is a sustainable, resilient, and inclusive food system that makes the best use of the food we grow.

To learn more about solutions to reduce food waste,  
please visit [www.refed.org](http://www.refed.org).



## RECIPE COLLECTION

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Over 12 weeks, 35 leaders from nine MCURC institutions participated in a research sprint led by executive chefs from the University of North Texas and Stanford, focusing on reducing food waste by repurposing overproduced foods. In collaboration with **ReFED**, the project explored the triple-bottom-line impact of repurposing in campus dining operations, supporting the Menus of Change Principles with a plant-forward approach.

This recipe collection showcases the chefs' creativity in transforming surplus food and usable trimmings into sustainable, cost-effective dishes. Explore recipes below or **[download a printable packet](#)** of the full Repurpose with a Purpose Recipe Collection.



## APPENDIX

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### Cost Comparison of Repurposed, From Scratch, and Displaced Recipe Across Institutions

\*Note: Any negative cost impact in the following table shows the comparison of the cost of repurposed recipes to the potential cost of a recipe that *might* have been made in place of the repurposed dish, excluding any savings from reduced procurement needs. The cost savings realized in these cases are from repurposing ingredients in a recipe as compared to using 'from scratch' ingredients (in **yellow**).

## REFLECTIONS FROM OUR REPURPOSE PROJECT CULINARY LEADERS

In the fast-paced, dynamic environment of university dining, we as chefs often face the challenge of balancing creativity, efficiency, and cost management. This report reflects the groundbreaking findings of a project that was led by chefs, for chefs, and highlights the powerful role of chefs as change-makers in advancing healthy, sustainable, delicious food choices for all. The report delves into the value of repurposing surplus food and production trimmings from our perspective as chefs, sharing case studies and operational rationale on how creative utilization benefits both the bottom line and sustainability goals.

At the heart of our approach is the decision to focus on recipes. Menus are thoughtfully designed as balanced collections of recipes, and by incorporating repurposed ingredients, we not only reduce food waste but also generate cost savings. The more repurposed recipes we feature, the greater the impact on food waste reduction and production efficiency.

While a new recipe may involve additional ingredient costs, the savings from reduced food disposal costs and reduced inventory waste frequently outweigh any additional recipe expenses. Furthermore, a repurposing approach supports customer satisfaction by enhancing menu variety through featured 'limited time' specials of repurposed ingredients, which allows us to keep our menus nimble while preventing over-purchasing. Repurposing can also be more efficient in terms of labor, as the time saved in production can offset some of the added ingredient costs.

In our day-to-day roles as culinarians, we intimately understand the operational challenges chefs face. In busy dining operations, unexpected obstacles often dictate decision-making. As we show in this report, leading a culture of repurposing provides chefs a chance to pivot and react to issues such as labor shortages or excess prepped ingredients that need to be used promptly, which can have numerous benefits to the operation and the team. Decisions on repurposing are ultimately shaped by what is readily available and how it fits into the menu structure, and as such, you will see variation in the quantifiable cost and environmental savings among the recipes shared in the report.

Ultimately, repurposing is more than just a method of managing excess food—it is a strategic approach that allows chefs to maintain menu flexibility, enhance efficiency, and deliver high-quality meals while driving long-term financial and operational benefits for dining services. Perhaps most importantly, repurposing has the power to motivate and empower chefs to use their creativity for good. We hope you enjoy this in-depth look at how repurposing is applied in practice and why it is essential for sustainable foodservice.

### **MATTHEW WARD**

Executive Chef of Residential Dining  
University of North Texas, Co-Chair,  
MCURC Executive Chef Committee

### **ANDREW MAYNE**

Senior Associate Director of Culinary Strategy  
and Plant-Forward Experiences,  
R&DE Stanford Dining, Hospitality & Auxiliaries

MENUS OF CHANGE UNIVERSITY RESEARCH COLLABORATIVE

Institution	Recipe	Category	Scaled servings	Cost per recipe	Cost per serving	Cost savings per serving repurposed vs from scratch	Cost savings over treatment period repurposed vs from scratch	Cost savings per serving repurposed vs. displaced	Cost savings over treatment period repurposed vs displaced
Boston University	Pineapple Water	Repurposed	352	\$0.00	\$0.00	\$0.04	\$330.19	\$0.04	\$330.19
		From Scratch		\$15.01	\$0.04				
	Pineapple Vinaigrette	Repurposed	2,304	\$131.33	\$0.06	\$0.02	\$697.08	\$0.08	\$3,514.43
		From Scratch		\$170.06	\$0.07				
Vinaigrette	Displaced	\$326.58		\$0.14					
Mean Green Barley Risotto	Repurposed	33		\$9.88	\$0.30				
From Scratch	\$23.09		\$0.69						
Red Pepper & Pesto Northern Beans	Displaced		\$3.80	\$0.11					
University of North Texas	Risotto Arancini	Repurposed	80	\$3.03	\$0.04	\$0.23	\$18.17	\$0.15	\$12.32
		From Scratch		\$21.20	\$0.27				
	Pesto Whipped Potatoes	Displaced		\$15.35	\$0.19				
	Rutgers University	French Toast Bites		Repurposed	1,028				
From Scratch			\$154.92	\$0.15					
Panzanella		Displaced	\$994.95	\$0.97					
San Jose State University	Pumpkin Chowder	Repurposed	15	\$2.53	\$0.17	\$0.11	\$1.60	\$0.29	\$4.34
		From Scratch		\$4.13	\$0.28				
	Baked Potato Soup	Displaced		\$6.87	\$0.46				
	Drunken Noodle with Tofu	Repurposed	100	\$81.37	\$0.81	\$0.07	\$6.82	-\$0.31	-\$30.94
		From Scratch		\$88.19	\$0.88				
Chana Masala	Displaced	\$50.42		\$0.50					
Vanderbilt University	Asian Broccoli Slaw	Repurposed	1,200	\$101.79	\$0.08	\$0.16	\$1,538.25	\$0.11	\$1,037.28
		From Scratch		\$294.07	\$0.25				
	Broccoli Slaw	Displaced		\$231.45	\$0.19				
University of Bristol	Kale and Pumpkin Seed Pesto	Repurposed	100	\$4.25	\$0.04	\$0.07	\$6.84	\$0.26	\$26.14
		From Scratch		\$11.09	\$0.11				
	Homemade Pesto	Displaced		\$30.39	\$0.30				
	Cauliflower Bhaji	Repurposed	150	\$25.02	\$0.17	\$0.29	\$43.95	\$0.02	\$3.05
		From Scratch		\$68.97	\$0.46				
Onion Bhaji	Displaced	\$28.07		\$0.19					
University of Reading	Spiced BBQ Panko Cauliflower Leaf	Repurposed	40	\$15.16	\$0.38	\$0.37	\$29.36	\$0.62	\$49.78
		From Scratch		\$29.84	\$0.74				
	Battered Banana Blossom	Displaced		\$40.05	\$1.00				
	Broccoli Risotto	Repurposed	65	\$19.94	\$0.31	\$1.04	\$338.12	\$0.75	\$245.35
		From Scratch		\$87.56	\$1.35				
Sweet Pea & Mint Broccoli Risotto	Displaced	\$69.01		\$1.06					
Stanford University	Lugaw	Repurposed	246	\$65.37	\$0.27	\$0.15	\$114.30	-\$0.09	-\$63.42
		From Scratch		\$103.47	\$0.42				
	Egg Drop Soup	Displaced		\$44.23	\$0.18				
	Vegetable Korma with Chicken	Repurposed	219	\$135.32	\$0.62	\$0.45	\$97.93	\$0.39	\$85.05
		From Scratch		\$233.25	\$1.06				
Chicken Coconut Curry	Displaced	\$220.37		\$1.00					
Total							\$4,036.67		\$19,448.83

