

Addressing Food Waste in the Hospitality & Foodservice Sector

An overview of why and where food waste happens



Contents

Why and where food waste happens	3
Why do kitchens waste so much food	6
Recommendations	7
Act on food waste now	12
Appendix	14
About Winnow	15



Why and where food waste happens

For professional kitchens, the issue of food waste is one that simply cannot be ignored. Not only does wasted food represent a serious environmental concern, but it also costs businesses significant amounts of money.

Data from the UNFAO suggests that the world's population wastes approximately 1.3 billion tonnes of food, costing the equivalent of one trillion dollars on an annual basis.

The cost of food being wasted on an annual basis in the hospitality and foodservice sector has been estimated to be over \$100 billion globally.

Reduction of waste and optimisation of food production processes represents one of the biggest savings opportunities for the sector.

According to Winnow data collected from over 450 sites in 25 countries, kitchens that prepare food advance waste between 8% - 20% of total food costs due to overproduction, kitchen errors, spoilage and damaged produce, and food left on customer plates.

In some facilities, this level of waste can be as high as 40%. Often this amount can be equal to, or more than, total net profits.





By dissecting the data, it is evident that, within this total amount of waste, over 60% of food waste by weight is thrown away because kitchens prepare more food than customers are able to eat. (Figure 1)

Indeed, this level of overproduction is responsible for over 80% of the cost of the waste, since wasted items from preparation, such as trimmings, have little to no residual financial value. (Figure 2)

In correlation, the data show that, in fact, over 70% of all food waste happens before it reaches the customers' plates (pre-consumer waste), compared with less than 30% of food waste coming from the plate itself (post-consumer waste). (Figure 3)

Figure 1 | Details of why and where food waste happens by reason & time of the day

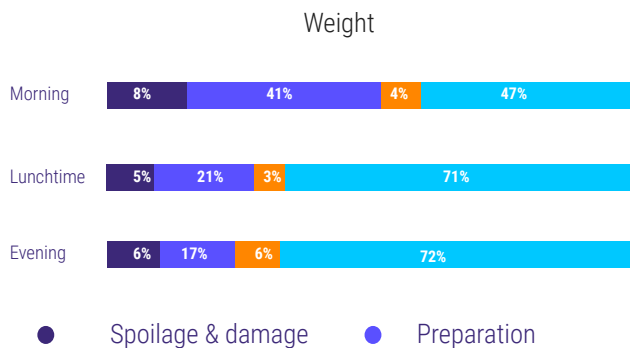


Figure 2 | Details of why and where food waste happens by reason & time of the day

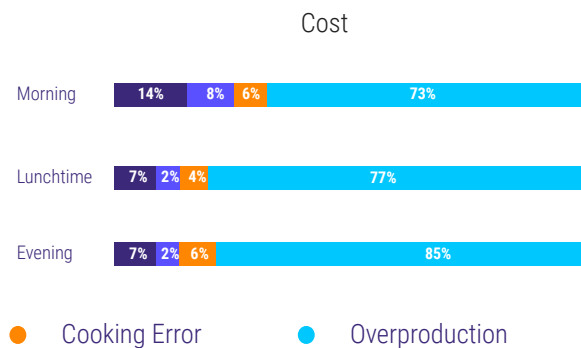
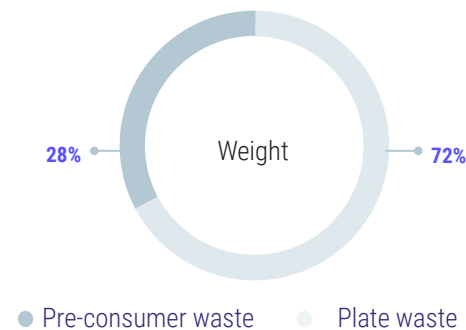


Figure 3 | Plate waste vs Pre-consumer waste



This overproduction issue results in significant economic loss for these outlets, and has a negative impact on both food security and the environment.

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The majority of these kitchens have demonstrated that, through the use of quality, granular data, coupled with strong leadership and high levels of staff engagement, it is possible to cut the level of overproduction waste by 40% or more, without impacting the quality of service.

The old adage, “what gets measured gets managed”, has never more true than in a kitchen environment, where high staff turnover, changes in menus and variances in costs can have a significant impact on the profitability of the kitchen.

By measuring and managing both the weight and value of food waste on an ongoing basis, kitchens have an opportunity to greatly enhance the efficiency and productivity of their operations.

Since 2013, we have been helping some of the world’s most prestigious brands, such as IKEA, Accor Hotels, Compass Group, IHG, Elior and Carnival Cruise Line.

Our clients have shown that by measuring and monitoring it is possible to cut food waste by 50% or more by value. From working with hundreds of professional kitchens around the world, Winnow has built up a large, and growing, database of food waste practices.

To help the wider industry learn from these data, we are starting a series of reports to provide new information on the origin, amount, frequency and cost of food waste. Here, in our first report, we share an overview of why and when food waste happens.

The purpose is to help the sector understand the huge scale of food waste and to provide recommendations by analysing impact in key areas of the kitchen.

Why do kitchens waste so much food and what can be done to reduce it?

Kitchens that prepare food in advance will always experience a certain level of waste.

However, today, chefs lack the necessary tools to keep this level to an absolute minimum.

As everybody knows, kitchens are high pressure and fast-paced environments. It is a challenge to keep on top of food waste levels in such environments.

In addition, staff turnover and lack of training inevitably leads to less than perfect decision-making processes. Furthermore, the

requirement of a full buffet at all times plus the inability to perfectly predict customer demand inevitably result in chefs overproducing food. Simply capturing and analysing data on each area of production and understanding why, when and where food waste happens can help chefs trace the inputs and factors that contribute to the problem.

The results summarised here reveal that in order to reduce food waste and save money, kitchens can use the data to make adjustments to their production practices to cook the right amount of food at the right time.





Recommendations

The below set of recommendations do not necessarily include anything particularly new or ground-breaking. These are changes chefs and kitchen staff will recognise and understand; their importance is, however, highlighted by the data we have collected, and their effectiveness validated by the customers who employ these simple techniques, by tracking, learning and changing their production practices as a result.



1.

Reduce spoilage and damage



Track

Keep track of your best before and use by labels, and just pay attention on the state of all your fresh products to avoid waste due to spoilage and damaged food.



Learn

The hidden costs of spoilage & damaged produce: utility usage (electricity, gas).

Factors that can contribute to storage waste and spoilage: food stored in damp conditions, wrong degree of temperature, lack of knowledge of hygiene.



Change | Preventing spoilage & damage

1. Review stock management and food delivery processes for food items. Store stock correctly at the right temperature and date all products when you receive them. Put new products at the back of the shelf so older food gets used first.
2. Sites should consider labelling food once they are received. Labels should include the product description, date of receipt, expiry date, and may also include storage instructions.
3. Order food just before it is to be used so that it does not turn bad while it is kept in storage. Ordering food only when needed also ensures that the food sold is fresh.
4. Food is also wasted due to poor inventory management which may result in an overstocking of shelves. An electronic inventory management system or software may help track stock levels more effectively.

2.

Reduce preparation errors



Track

Kitchens are busy environments and chefs are constantly multi-tasking. Empower chefs with extra training whilst preventing food from getting wasted during the preparation process.



Learn

Hidden cost of preparation errors: utility usage (electricity, gas, water).

Factors that can contribute to waste: cooking error, over-trimming, lack of standardised recipe.



Change | Preventing waste during preparation

1. Providing training to improve efficiency of food preparation will help you reduce food waste.
2. Good training will also guarantee that cooks are able to obtain the optimal number of dishes from the purchased ingredients and as a consequence reduce your costs.

3.

Reduce overproduction



Track

Understand your customer's need and make the necessary adjustment to production level to prevent wasting food because of overproduction.



Learn

Hidden cost of overproduction: cost of labour's time invested in preparing the food, cost of collection.

Factors that can contribute to overproduction: poor purchasing practices, failure to check deliveries, poor storage practices, lack of proper production records to indicate how much of each item to prepare.



Change | Preventing overproduction

1. Small things such as switching from bulk production to smaller batches, revising order quantities regularly and preparing daily production estimates can lead to significant results in reducing overproduction.
2. For restaurants offering buffets, an à la carte buffet could be considered, where dishes are prepared in small portions only upon placement of orders.
3. Avoid designing menus with a single dish that requires a specific ingredient. If customers do not order that dish, that ingredient would turn bad over time. Monitor what is being sold and consider removing dishes that are not in demand from the menu.

4.

Reduce cooking error



Track

Pay attention to your chef's knife abilities, and offer them further training if necessary to to prevent preparation errors.



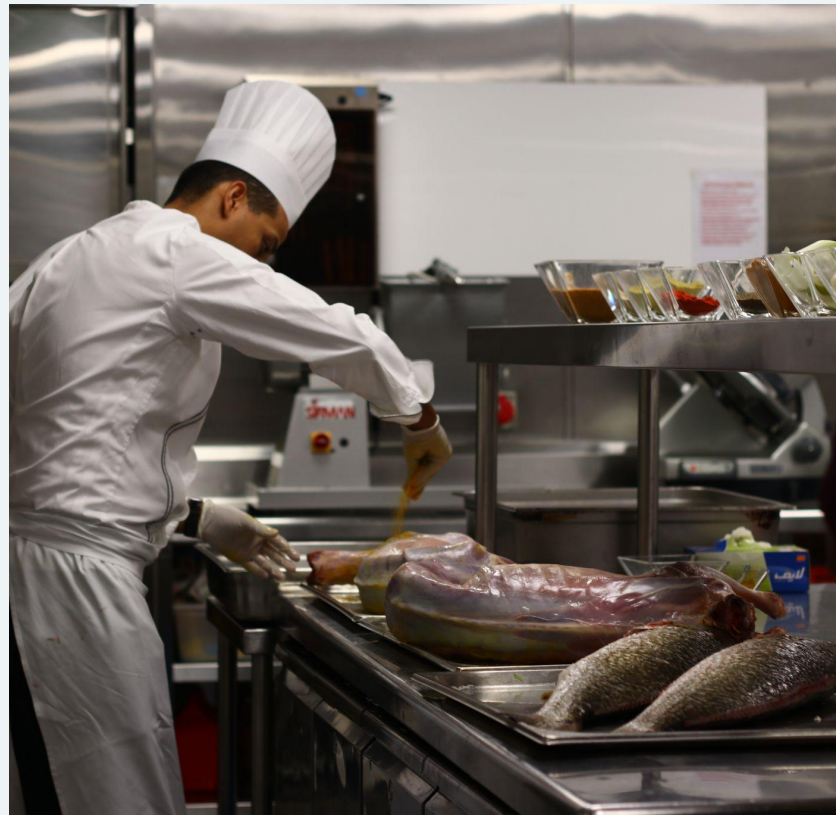
Learn

Hidden cost of cooking errors: cost of labour's time invested in preparing the food, cost of collection. Factors that can contribute to cooking errors: this could suggest that as chefs tire from long shifts, the chance of making a handling mistake or burning food increases.



Change | Preventing cooking error

Conduct training for new staff to guarantee they are well prepared and will commit the least mistakes possible.



Act on food waste now

There is an pressing need for the hospitality and foodservice industry to address food waste. The problem has a significant negative impact on bottom line growth, at a time when food costs are rising, competition is increasing and customers are becoming ever more demanding.

In commercial kitchens, overproduction happens with great frequency, generating food waste throughout the entire day, especially in the afternoon and evening. The food wasted due to overproduced food is also the most costly because it consists of higher value food such as beef steak, fish fillet, desserts or salads.

“

First of all, food is too valuable to be wasted. Winnow is a great tool which Pullman Dubai Creek City Centre uses to monitor our daily making and waste.

Also, having the system in my kitchen helps me plan a better control production, which automatically means significant cost reductions as we are saving US\$400 weekly on food cost.

Dwayne Thomas Krisko | Head Chef
Hotel Pullman Dubai Creek City Center



Although it is possible to minimise food waste by redesigning menus, avoiding spoilage and investing in staff training, investing in better production planning and accurate waste measurement tools can be a significant boon.

By bringing sustainability, innovation and control to your kitchen production practices, you can do your bit for the environment, stay ahead of your competition, and improve your financial performance.

“

Winnow has been instrumental in giving us actionable insights into the main areas where we can reduce food waste. Our staff now understands more clearly the value of food that is wasted and has become more engaged in the process. We have seen significant margin improvement on our buffet and are now planning to roll out the technology in other F&B areas in our hotel.

William J. Haandrikman | General Manager
Sofitel Sukhumvit



Appendix

About the research

Baseline - The data was collected, during their pre-reduction period, which we refer to as the baseline. This is typically measured over a period of one to three weeks. The aim is to build the food waste profile of a typical week, and the kitchen team explicitly do not make any reductions. The baseline week is used to measure reductions against.

WHY food waste happens | These are the factors that contribute to the problem:

- **Spoilage and Damage** - Food from inventory discarded due to damage, rot, or "best before" dates, e.g. rotten apples
- **Preparation - Trimmings** from food that is prepared, e.g. the ends of cucumbers
- **Cooking Error** - Accidentally overcooked or dropped food, e.g. burnt toast
- **Overproduction** - Food which was produced and discarded, typically at the end of service, because it was not able to be served, e.g. leftover scrambled eggs
- **Plate-waste** - The food left on customer's plates after a meal

WHEN food waste happens

We believe time of the day is insightful to help tackle food waste:

Breakfast: Before 10:00 am

Lunch: From 10.00 am to 3:00 pm

Dinner: After 3:00 pm

The data was collected from 460 sites, located in 25 countries across 3 regions:

Europe: Belgium, Czech Republic, Denmark, France, Hungary, Italy, Netherlands, Norway, Poland, Spain, Sweden, UK and Ireland

APAC: Australia, China, Hong Kong, India, Indonesia, Myanmar, Philippines, Singapore, Thailand, and Vietnam

MENA: Qatar, UAE



About Winnow

Winnow was founded with a simple belief that food is too valuable to waste. Yet measuring food waste is a challenge for all commercial kitchens with up to 20% of all food purchased going to waste (typically 5%-15%).

Our mission is to connect the commercial kitchen, create a movement of chefs, and inspire others to see that food is too valuable to waste.

Winnow develops Artificial Intelligence (AI) tools to help chefs run more profitable and sustainable kitchens by cutting food waste in half.

From city centre hotels to casinos and cruise ships, Winnow offers a solution for every kitchen. Our analytics platform and reporting suite helps teams pinpoint waste quickly, allowing enterprises to drive significant waste reductions at scale.

Our hardware options range from simple digital measurement tools to our AI enabled Winnow Vision which 'learns to see' food being thrown in the bin. We understand that achieving and improving profitability in a professional kitchen can be a challenge. We will work with you every step of the way.

Get in touch to continue the conversation
[**info@winnowsolutions.com**](mailto:info@winnowsolutions.com)

Can Winnow Help You?

1. Interested in reducing food waste and cost?
2. Want to gain better understanding of food waste in your kitchens?
3. Are you spending ~100K\$/year on food in each of your kitchens?
4. Do you prepare some or most of your food in advance?
5. Does your organisation have more than 10 sites with kitchens?

If you answered yes to all of these questions, speak to one of our food waste experts to find out what reducing food waste could mean for your business.

[Get a Free Consultation](#)