

LOS TROMPOS restaurants, tacos and specialties

United for efficiency and sustainability

Food Loss and Waste Measurement, Prevention and Reduction Case Study

Reaffirming its commitment to society, the environment, and the economy, the Los Trompos restaurant chain is working to improve the efficiency of its processes and make them more sustainable. The company, in line with its institutional values and the Sustainable Development Goals (SDG)¹ of Agenda 2030 of the United Nations, has adopted as its corporate objective that of taking steps and initiatives geared toward reducing food loss and waste (FLW), establishing processes and policies for more sustainable kitchen operating practices by means of networked activities among their outlets.

Organization

The restaurant chain Los Trompos has been serving fine Mexican cuisine for 25 years. It has 21 points of sale in four cities in two Mexican states: Mérida and Progreso in Yucatán, and San Francisco de Campeche and Ciudad del Carmen in Campeche.

Having set the goal of being an innovator in the restaurant industry, Los Trompos has distinguished itself as an ethical and profitable business group that, from its inception, has used high-quality ingredients and has been governed by the corporate philosophy of “service with a smile.” Los Trompos’ corporate philosophy is to make each diner in their restaurants always feel welcome to come back. In the area of corporate social responsibility, the company has been working for years on four institutional programs: *sustainable kitchen practices*, *zero waste*, *sustainable infrastructure*, and *climate action*, through coordination among in-house committees and in alliance with various local interest groups.

What was measured?

With an eye to prevention, food waste produced by two of the chain’s restaurants was measured.

How was it measured?

Food loss and waste (FLW) from the operations at two outlets of Los Trompos in the city of Mérida was quantified using direct measurement techniques, food waste analysis, and surveys.

What were the results?

The measurement exercise revealed great potential for reducing waste at table, which amounted to 63.32% of the restaurant’s total food waste and included the majority of extras, such as salsas, tortillas and totopos, garnishes and condiments, as well as leftovers. Based on the results obtained, various steps will be taken to reduce food waste, including reviewing Los Trompos’s menus; adjusting service protocols, to feature smaller portions of extras and garnishes and individual packs for take-home service; rolling out a campaign to create awareness of the importance of using food carefully and avoiding FLW; and implementing measurement and prevention methodology at all the chain’s outlets in the context of a corporate food management plan.

Introduction

As part of the company’s social and environmental commitment and with a view to striving for greater sustainability in its operations, Los Trompos has decided to focus its attention on the food loss and waste produced in its restaurants. A first step in achieving this goal was to implement good inventory management, using the FIFO (first-in, first-out) method, good manufacturing practices (GMP), and sanitation-standard operating procedures (SSOP).

¹ Goal 2: Zero hunger, Target 2.4: By 2030 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality.

Goal 12, Responsible consumption and production, Target 12.3: By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

In this effort, a zero-waste program was put in place, enabling the company's restaurants to make progress in detecting and classifying food waste, preventing it by working hand-in-hand with allied local organizations. In parallel, with the corporate sustainable kitchens program, the company has raised the awareness among its staff members. On the strength of these measures, Los Trompos obtained certification as an "environmentally responsible restaurant" from the city of Mérida, and now sports the "zero waste" emblem awarded by the National Restaurant Industry Association (*Cámara Nacional de la Industria de Restaurantes y Alimentos Condimentados*—Canirac) and Unilever Food Solutions.

Los Trompos took part in the Commission for Environmental Cooperation (CEC) project on FLW measurement, prevention and mitigation, serving as one of the case studies in which the CEC's practical guide to FLW quantification was tested.² With the ultimate purpose of formulating and implementing a FLW reduction plan, Los Trompos began quantifying the food waste produced by two of the chain's restaurants, with the direct involvement—after awareness raising—of staff, managers, directors, and the company's corporate headquarters. For this, a survey was taken to learn about staff perceptions of FLW; meetings were held to present the project; food waste measurement exercises were conducted; and it was also decided that learning more about customer opinions would also give greater clarity on possible steps to be taken to reduce food waste in the company's operations.

Methodology

Scoping

To measure FLW at the two pilot Los Trompos restaurants—both in the city of Mérida, one in the city center and the other in the Tanlum residential area—the methodology presented in the CEC's practical guide was employed: in particular, the module corresponding to the food service sector (food preparation and restaurants).

Food waste generated during the operation of the restaurants was measured in both the dining room and the kitchen, the latter being divided into three areas: storage, prep, and dish preparation. Storage is where cold and non-perishable foods are stored; prep is where basic ingredients, sides, and garnishes on the plates are prepared; and dish preparation is where the dishes on the menu are put together.

The following definitions for classification and measurement of food waste were applied:

- **Kitchen scraps:** Peelings, shells, skins, seeds, pits, and other inedible parts of fruit and vegetables, including avocado pits, produced mainly in the prep area
- **Spoilage:** Inputs or products which, after being prepared and not consumed, cannot be reused due to hygienic issues or natural spoilage
- **Table waste:** Leftovers, waste, garnishes, etc., generated mainly by diners

Food waste measurement took place in three stages during a period of four months from late 2020 to early 2021:

1. Survey of staff and collaborators under the responsibility of the Social Responsibility area (October)
2. Determination of total waste produced by the participating restaurants at the end of the food chain (November) and direct measurements of waste from kitchen and dining room processes (December–January) by leaders at each of the two participating outlets
3. Customer survey (February) by company staff

The customer survey was performed as a complement to direct measurement. The purpose of the survey was to ascertain diners' opinions, and particularly those of clients who leave food on their plates, with respect to:

- Satisfaction with food served
- Portion size
- Recommendations for reducing food waste

So as to be able to correlate the reasons for food waste generation with diner profile, the following parameters were included in the survey:

- Number of diners in the party
- Customer segment (families, groups of friends, couples, colleagues, etc.)
- Reason for visit (ordinary meal, celebration, work)
- Frequency of visits (new customer, occasional customer, frequent customer)
- Knowledge of menu

Methods for measuring FLW

With a view to quantifying FLW at the two Los Trompos restaurants, the following measurement methods were employed:

Staff survey

A survey was conducted at the beginning of the project to ascertain food waste identified by employees and collaborators of the participating restaurants, its origin and probable causes, and proposals for reducing or eliminating it.

Direct measurement

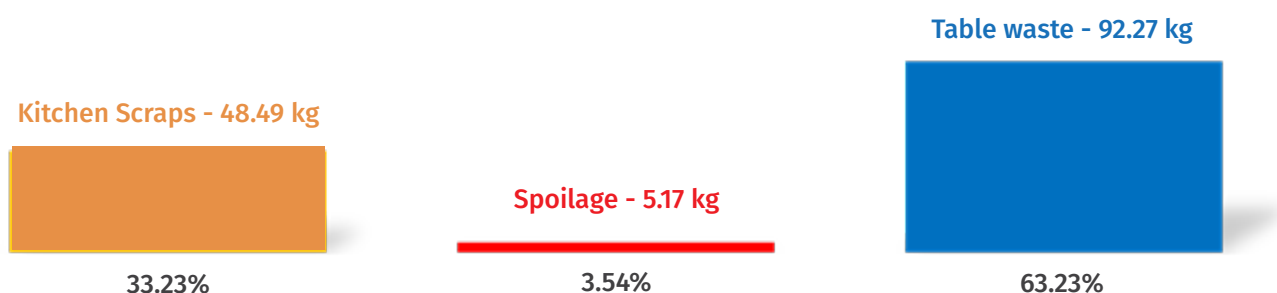
With the support of personnel from the Corporate Social Responsibility area of Los Trompos, leaders at the two selected outlets took inventory of total waste generated at the end of the chain in order to ascertain the volume of food waste, and thus obtain a baseline as well as provide justification for the project. Direct measurements of waste from kitchen and dining room processes were then made at each of the two restaurants, to identify, classify, and quantify the most commonly wasted foods, in order to gather input data for a plan to determine FLW preventive measures and reduction of FLW at the source.

² CEC (2019). Why and How to Measure Food Loss and Waste: A Practical Guide, online at <<http://www3.cec.org/islandora/en/item/11869-why-and-how-measure-food-loss-and-waste-practical-guide-version-20>>.

Table 1: Standard form used to tabulate FLW

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Wt. (kg)
Kitchen Scraps	3.900	4.300	8.900	3.300	6.820	11.450	9.820	48.490
Spoilage	0.400	0.000	0.800	1.400	0.600	0.870	1.100	5.170
Table Waste	5.250	8.760	12.700	8.400	13.960	18.400	24.800	92.270

Figure 1: Total weight of FLW measured in the study



Waste composition analysis

In addition to direct measurement to quantify FLW at two control points in each restaurant, the kitchen and the dining room, the composition of food waste was analyzed. The results of this analysis helped to categorize the various types of food thrown away, distinguish between food and inedible parts, and keep more accurate records. On this basis, Los Trompos will be able to incorporate the recommendations in the CEC’s practical guide into its planning efforts aimed at minimizing the generation of each type of waste; finding ways to make better use of foods wasted, in conformity with the food recovery hierarchy; and tracking progress on FLW reduction.

Customer survey

During the month of February 2021, 130 diners at the two participating restaurants were surveyed, using an online form, in an effort to identify the origins or causes of food waste. This was done by taking note of the diners’ recommendations about how food waste might be reduced and correlating these suggestions with the various diner profiles.

“At Los Trompos, we are always open to issues, projects, and actions leading to sustainability and continuous improvement, or that have an impact on education (or re-education) and culture and on environmental stewardship. Our commitment today is to apply the food waste reduction methodology at each of our chain’s outlets.”

- Ángel Leopoldo Osorio Haas, CEO, Los Trompos

Results

The volumes of food waste measured were similar at the two restaurants. The largest source was table waste: leftovers on diners' plates, including sides and garnishes served at the tables but left untouched. A composition analysis showed that the main types of food wasted by diners in the dining room were salsas, tortillas and totopos (tostadas), garnishes (beans, guacamole), condiments (lemon, onion, cilantro), and meat scraps, as shown in the image and table in Figure 2. The average recorded figures stayed constant during the three weeks of direct measurement at both establishments.

According to the diner survey results, 91.5% of customers were satisfied with their food; 86% found the portions adequate, and 94% came to the restaurant without any special or additional reason other than the desire to have an ordinary meal. Among the respondents' recommendations were to continue with the usual service protocols, especially as regards salsas.

It was observed at both participating outlets that diners with children tend to waste more food.

Figure 2: Itemization of food waste by diners at two restaurants



Category	Product	Weight (g)	%
Salsas	Red salsa	131	11.13%
	Green salsa	106	9.01%
	Habanero chile	97	8.24%
	Garlic sauce	0	0.00%
	Chipotle sauce	5	0.42%
	Tamarind sauce	0	0.00%
	Arbol chile	0	0.00%
Fruits and vegetables	Onion with cilantro	108	9.18%
	Pineapple	0	0.00%
	Squeezed lime	170	14.44%
	Untouched lime	106	9.01%
Meat	Al pastor, chop, poc chuc	65	5.52%
Sides	Stuffed potato	0	0.00%
	Pasta	0	0.00%
	Keburro	0	0.00%
	Baked pizza dough	0	0.00%
Tortillas and totopos	Tortillas	96	8.16%
	Totopos	158	13.42%
Extras	Salad	0	0.00%
	Grilled onion	0	0.00%
	Pinto beans	60	5.10%
	Guacamole	75	6.37%
		1,177	100%

Conclusions

Determining the actual quantities of food wasted proved highly useful to Los Trompos. It helped identify critical FLW points and served as a basis for planning specific measures to be implemented in the value chain, based on recommendations in the CEC practical guide and taking into consideration the food recovery hierarchy. As a result of the food waste measurement and classification exercise, as well as the responses to the customer survey, it was possible to identify the causes of FLW in the operations of the chain's restaurants. To date, Los Trompos has implemented the following measures:

- Involvement of corporate areas
- Adjustments to garnishes of side dishes
- Revision of service protocols (with smaller portions of complementary items and individual packs for taking home leftovers)
- Implementation of the FLW measurement and prevention methodology at all of the chain's outlets as part of a corporate food management plan

For the future, Los Trompos's goal is to implement the following measures:

- Conduct an awareness campaign on FLW throughout the organization, with a view to sensitizing both staff and customers and creating awareness around the importance of using food carefully and avoiding FLW
- Create additional garnish options to better correspond to diners' preferences
- Prepare graphic materials with high visual impact to help create a culture of economy and waste reduction that will go beyond the workplace and extend into the homes of company staff and even customers

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