

A vertical decorative graphic on the left side of the slide. It features a pile of food waste (vegetables, meat, etc.) at the top. Below it is a vertical line with five circular icons: a person with a lightbulb (idea), two people exchanging a document (transaction), a thermometer (temperature), a knife (cutting), and a shopping cart (retail).

RETAIL FOOD WASTE PREVENTION

PART 2: Toolkit Instruction Manual
for Supermarket, Convenience and
Specialty Food Store Operators

One Objective, Three Valuable Documents



Part 1
Food Waste
Reduction Toolkit
Report



Part 2
Food Waste
Reduction Toolkit
Instruction Manual



Part 3
Food Waste
Reduction Excel
Toolkit

About This Document

Document Purpose:

This Document contains instructions for the use of the Food Waste Toolkit that comprises of a separate Microsoft Excel Workbook and a report describing the impact of waste in the foodservice sector, the benefits of waste reduction initiatives to business operators, and detailed discussion and best practices for reducing food waste.

The top-left corner of each page indicates the name of the related sheet in the Excel Toolkit.

Instruction Manual Contents:

- Standard Recipe Cost Form
- Customer Forecasting Template
- Production Planning (Portion Forecasting) Template
- Waste Log Template
- Shrinkage Monitoring

 *P1 – Standard Recipe Cost Form*



FOODSERVICE
FOOD WASTE PREVENTION

STANDARD RECIPE COST TEMPLATE

Standard Recipe Cost Form

Name of Recipe

Column Identifiers

Calculation Instructions

("Entered" = data is provided by user, not calculated)

Ingredient Rows

Total Cost of Recipe

Recipe Yield

Cost per Portion

Preparation Instructions

STANDARD RECIPE COST FORM

[illegible]

Methodology:



Standard Recipe Form: Ingredient Details

Recipe Name: *Mashed Potatoes*

Ingredient

Description	Quantity	Unit
Column	A	B
Formula	Entered	Entered
<i>Potatoes, Peeled, Quartered</i>	<i>1750</i>	<i>grams</i>
<i>Cream, 35%</i>	<i>250</i>	<i>millilitres</i>
<i>Butter, Unsalted</i>	<i>150</i>	<i>grams</i>
<i>Pepper, White, Ground</i>	<i>0.5</i>	<i>teaspoon</i>
<i>Salt, Kosher</i>	<i>3</i>	<i>teaspoon</i>

Quantity [A]:

The number of EP units used in the recipe. For example, this recipe uses 1,750 units of peeled and quartered potatoes.

Unit [B]:

The unit of measure referenced in the quantity column. For example, the unit of measure for potatoes, is grams, so this recipe uses 1,750 grams of peeled and quartered potatoes.

Ingredient Description:

Clearly state the ingredient name and condition. Use the edible portion description unless preparing the ingredient is part of the recipe process. For example, “Potatoes, Peeled, Quartered” is the usable state or edible portion (EP) format of the potatoes that are used in this recipe.

Standard Recipe Form: As Purchased Details

Recipe Name: Mashed Potatoes				
Ingredient			As Purchased ("AP")	
Description	Quantity	Unit	Cost per Unit	Unit
Column	A	B	C	D
Formula	<i>Entered</i>	<i>Entered</i>	<i>Entered</i>	<i>Entered</i>
Potatoes, Peeled, Quartered	1750	grams	\$ 1.75	kilogram
Cream, 35%	250	millilitres	\$ 5.00	litre
Butter, Unsalted	150	grams	\$ 10.40	kilogram
Pepper, White, Ground	0.5	teaspoon	\$ 42.00	kilogram
Salt, Kosher	3	teaspoon	\$ 1.25	kilogram

Unit [D]:
The unit of measure in which the ingredient is purchased. For example, potatoes are purchased by the kilogram and cream is purchased by the litre.

AP Cost per Unit [C]:
The price paid to suppliers for one unit of the ingredient. For example, this operator pays \$1.75 kilogram of potatoes.

AP or As Purchased:
AP is the format in which product is received from the supplier prior to any processing or preparation.

Standard Recipe Form: Edible Portion Details

EP or Edible Portion:

EP is the format in which product is used by the recipe, usually after some sort of processing or preparation. For example, “peeled, quartered” is the EP format for potatoes used in this recipe. Preparation from AP to EP usually results in some loss, which must be accounted for using a yield ratio.

Yield Ratio [E]:

The percentage of the AP product that is usable as EP product. For example, 18% of AP potato weight is lost (unusable peel and trim) so the yield ratio is 82% (100% - 18%).

Recipe Name: <i>Mashed Potatoes</i>		Edible Portion ("EP")		
Ingredient		Yield	EP	Ingredient
Description	Quantity	Ratio (%)	Cost per Unit	Units in AP
Column		E	F	G
Formula	Entered	Entered	$C \div E$	Entered
Potatoes, Peeled, Quartered		82%	\$ 2.13	1,000
Cream, 35%		98%	\$ 5.10	1,000
Butter, Unsalted		100%	\$ 10.40	1,000
Pepper, White, Ground		100%	\$ 42.00	417
Salt, Kosher		100%	\$ 1.25	160

EP Cost per Unit [F]:

The processed cost of the EP product adjusting for loss. The cost of the lost product is transferred to the product that is usable.

Ingredient Units in AP Unit [G]:

A conversion dividend used to convert the cost per EP Unit into a cost per unit used by the recipe’s ingredient.

Ingredients are often purchased and used in different units. For example, salt is purchased by the kilogram and used by the teaspoon. The cost per teaspoon is found by dividing the EP cost per kilogram by the number of teaspoons in a kilogram of salt

Standard Recipe Form:

Total Ingredient Cost

Recipe Name: <i>Mashed Potatoes</i>								
Ingredient			As Purchased ("AP")		Edible Portion ("EP")			
			AP			EP	Ingredient	
			Cost per		Yield	Cost per	Units in AP	Total
Description	Quantity	Unit	Unit	Unit	Ratio (%)	Unit	Unit	Cost
Column	A	B	C	D	E	F	G	H
Formula	Entered	Entered	Entered	Entered	Entered	$C \div E$	Entered	$F \div G \times A$
Potatoes, Peeled, Quartered	1750	grams	\$ 1.75	kilogram	82%	\$ 2.13	1,000	\$ 3.73
Cream, 35%	250	millilitres	\$ 5.00	litre	98%	\$ 5.10	1,000	\$ 1.28
Butter, Unsalted	150	grams	\$ 10.40	kilogram	100%	\$ 10.40	1,000	\$ 1.56
Pepper, White, Ground	0.5	teaspoon	\$ 42.00	kilogram	100%	\$ 42.00	417	\$ 0.05
Salt, Kosher	3	teaspoon	\$ 1.25	kilogram	100%	\$ 1.25	160	\$ 0.02

Total Cost for Ingredient :

Total cost for ingredient is the extended cost of an individual ingredient used by the recipe. Total cost for ingredient consists of the EP cost per unit divided by the number of ingredient units in an EP/AP unit (to convert to the ingredient unit) multiplied by the number of units used in the recipe.

For example, the recipe uses grams as the unit of measure for potatoes and the AP/EP unit of measure is kilograms. A kilogram is 1,000 grams. The cost per gram is the EP cost for potatoes, peeled, quartered (\$2.13 per kilogram) divided by 1,000 grams. The cost per gram is multiplied by the number of grams used (1,750). The total cost of potatoes in this recipe is \$3.73.

Standard Recipe Form: Total Recipe Cost

Total Recipe Cost:

Total recipe cost is the sum total of all ingredient costs for the recipe. In this example, the total cost for potatoes, cream, butter, salt and pepper is \$6.64.

Recipe Yield:

Recipe Yield is the total number of portions produced by preparing the recipe one time. In this example, the recipe yielded 10 portions

Cost per Portion:

Cost per portion is the cost for a single portion. Cost per portion is found by dividing the total recipe cost by the number of portions (recipe yield). In this example, \$6.64 divided by ten portions results in a cost of \$0.66 per portion

Total Cost	
H	
F ÷ G x A	
\$	3.73
\$	1.28
\$	1.56
\$	0.05
\$	0.02
\$	6.64
	10.00
\$	0.66

Standard Recipe Form: Methodology

Methodology:

In a medium-sized, heavy-bottomed pot, cover potatoes with cold water
Place pot over high heat and bring to a boil
Reduce heat to low and simmer gently until potatoes are tender (approximately 20 minutes)
Drain potatoes
Melt butter in cream in a small pan over medium heat
While butter and cream is warming, press potatoes through a ricer
Stir in the warmed cream and butter
Season with salt and pepper

Methodology:

Methodology provides Cooks with detailed instructions for preparing the recipe. When written effectively, methodologies ensure the correct yield and product quality is achieved.

Effective methodologies should include all steps of preparation, required equipment along with both time and quality standard outcomes (i.e., “cook until tender, approximately 20 minutes”, etc.)



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CUSTOMER FORECASTING TEMPLATE

Forecasting Customers

Forecasting Customers:

Much of the forecasting process relies on historical information. Not only quantitative data (as will be used in this template) but qualitative experience, which is critical for interpreting and using the quantitative data.

The template may be adjusted to add additional columns and variables based on the needs of the user, but is kept simple here for illustrative purposes.

Historical Data

Historical Statistics

Date m/d/yyyy	Month	Day of Week	Weather	Customers	Special Notes
02/11/2018	November	Friday	Cold	100	
03/11/2018	November	Saturday	Cold/Rain	80	
04/11/2018	November	Sunday	Rain	75	
05/11/2018	November	Monday	Rain	70	
06/11/2018	November	Tuesday	Snow	70	
07/11/2018	November	Wednesday	Cold/Sunny	85	
08/11/2018	November	Thursday	Cold/Sunny	100	
09/11/2018	November	Friday	Cold/Sunny	120	
10/11/2018	November	Saturday	Cold/Sunny	120	
11/11/2018	November	Sunday	Cold/Sunny	80	
12/11/2018	November	Monday	Cold/Sunny	80	
13/11/2018	November	Tuesday	Cold/Sunny	85	
14/11/2018	November	Wednesday	Snow	80	
15/11/2018	November	Thursday	Snow	80	
16/11/2018	November	Friday	Snow	100	
17/11/2018	November	Saturday	Snow	100	
18/11/2018	November	Sunday	Cold/Sunny	83	
19/11/2018	November	Monday	Cold/Sunny	79	
20/11/2018	November	Tuesday	Cold/Sunny	86	
21/11/2018	November	Wednesday	Cold/Sunny	85	
22/11/2018	November	Thursday	Snow	84	
23/11/2018	November	Friday	Snow	103	
24/11/2018	November	Saturday	Snow	10	Power Outage - closed early

Average:	85	Minimum:	10
Median:	84	Maximum:	120

Note: This is a very basic example of a forecasting model. The model is simply a representation of historical traffic. The results of this tool are intended to be guidelines only. Actual traffic levels may vary.

Forecasting Customers: Collecting Historical Data

Historical Data:

Record the relevant variables and number of customers served for each day.

The tool will become more valuable as the amount of historical data increases.

In this example; the template tracks date, month, day of week, weather and the number of customers served.

An additional column “Special Notes” captures unique conditions that may otherwise be missed (i.e., abnormal weather, construction, conventions, events, etc.)

In the electronic version of the template, Month and Day of Week will populate automatically when a date is added.

Date m/d/yyyy	Month	Day of Week	Weather	Customers	Special Notes
02/11/2018	November	Friday	Cold	100	
03/11/2018	November	Saturday	Cold/Rain	80	
04/11/2018	November	Sunday	Rain	75	
05/11/2018	November	Monday	Rain	70	
06/11/2018	November	Tuesday	Snow	70	
07/11/2018	November	Wednesday	Cold/Sunny	85	
08/11/2018	November	Thursday	Cold/Sunny	100	
09/11/2018	November	Friday	Cold/Sunny	120	
10/11/2018	November	Saturday	Cold/Sunny	120	
11/11/2018	November	Sunday	Cold/Sunny	80	
12/11/2018	November	Monday	Cold/Sunny	80	
13/11/2018	November	Tuesday	Cold/Sunny	85	
14/11/2018	November	Wednesday	Snow	80	
15/11/2018	November	Thursday	Snow	80	
16/11/2018	November	Friday	Snow	100	
17/11/2018	November	Saturday	Snow	100	
18/11/2018	November	Sunday	Cold/Sunny	83	
19/11/2018	November	Monday	Cold/Sunny	79	
20/11/2018	November	Tuesday	Cold/Sunny	86	
21/11/2018	November	Wednesday	Cold/Sunny	85	
22/11/2018	November	Thursday	Snow	84	
23/11/2018	November	Friday	Snow	103	
24/11/2018	November	Saturday	Snow	10	Power Outage - closed early

Forecasting Customers: Historical Statistics

Average:	85	Minimum:	10
Median:	84	Maximum:	120

Historical Statistics:

Historical statistics show the range and average number of customers experienced in the past. These statistics are not predictions, only a representation of what has already happened. Generally speaking, if none of the defining variables change, customer traffic should remain relatively similar to the past. This is a significant assumption; however, so, these statistics should be treated as a starting point that is adjusted based on the Manager's experience.

Without filtering the data, the statistics are better suited for long term-forecasting (i.e., on average how many customers are served per day multiplied by the number of days in a year to estimate total annual customers).

For production planning, this template allows you to filter the variables to find statistics for periods similar to the planning period (i.e., forecasted weather, day of week, etc.).

Average:

The mean average number of customers served per day in the historical period (sum of all customers divided by number of days).

Median:

The middle value if all data is sorted in sequential order. Median is often less sensitive to outliers (numbers that are much greater or less than most other historical values) than a mean average.

Minimum:

The fewest number of customers served per day in the period.

Maximum:

The greatest number of customers served per day in the period.

Generally speaking, the historical average is most useful when it is drawn from many data points and the range is relatively small (i.e., very little distance between minimum and maximum values).

Forecasting Customers: Isolating Conditions

Isolating Conditions:

Any number of reasons can affect the number of customers on a given day.

The closer the historical data aligns with the conditions of the day being planned for, the more accurate the statistics should be.

To filter the historical data, click on the drop-down menu for the related header, deselect “Select All” and select the values you wish to use. Click “OK” when done.

In the example to the right, the user has selected Sunday. Historical data for days other than Sunday will be hidden (but not lost), and the historical statistics will reflect Sunday data only.

Multiple filters may be used. For example, if the user wished to forecast for a Sunday with snow, he or she may filter by day of week and weather.

BASIC DAILY FORECASTING

Date m/d/yyyy	Month	Day of Week	Weather
02/11/2018	November	Sort A to Z	
03/11/2018	November	Sort Z to A	
04/11/2018	November	Sort by Color	
05/11/2018	November	Clear Filter From "Day of Week"	
Filter by Color			
Text Filters			
Search			
<input checked="" type="checkbox"/> (Select All)			
<input checked="" type="checkbox"/> Friday			
<input checked="" type="checkbox"/> Monday			
<input checked="" type="checkbox"/> Saturday			
<input checked="" type="checkbox"/> Sunday			
<input checked="" type="checkbox"/> Thursday			
<input checked="" type="checkbox"/> Tuesday			
<input checked="" type="checkbox"/> Wednesday			
<input checked="" type="checkbox"/> (Blanks)			
OK			Cancel

Date m/d/yyyy	Month	Day of Week	Weather
02/11/2018	November	Sort A to Z	
03/11/2018	November	Sort Z to A	
04/11/2018	November	Sort by Color	
05/11/2018	November	Clear Filter From "Day of Week"	
Filter by Color			
Text Filters			
Search			
<input checked="" type="checkbox"/> (Select All)			
<input type="checkbox"/> Friday			
<input type="checkbox"/> Monday			
<input type="checkbox"/> Saturday			
<input checked="" type="checkbox"/> Sunday			
<input type="checkbox"/> Thursday			
<input type="checkbox"/> Tuesday			
<input type="checkbox"/> Wednesday			
<input type="checkbox"/> (Blanks)			
OK			Cancel

To remove a filter, click on the drop-down menu to reveal the filter options, select “Select All” and click “OK”

Forecasting Customers: Interpreting the Statistics

In this example, the user has filtered historical customers by Saturdays in November.

Date m/d/yyyy	Month	Day of Week	Weather	Customers	Special Notes
03/11/2018	November	Saturday	Cold/Rain	80	
10/11/2018	November	Saturday	Cold/Sunny	120	
17/11/2018	November	Saturday	Snow	100	
24/11/2018	November	Saturday	Snow	10	Power Outage - closed early

Average:	78	Minimum:	10
Median:	90	Maximum:	120



Date m/d/yyyy	Month	Day of Week	Weather	Customers	Special Notes
03/11/2018	November	Saturday	Cold/Rain	80	
10/11/2018	November	Saturday	Cold/Sunny	120	
17/11/2018	November	Saturday	Snow	100	

Average:	100	Minimum:	80
Median:	100	Maximum:	120

The average number of customers served on Saturdays in November is 78; however, review of the range (ten to 120) and the difference between median and average suggests that the average may not be accurate. Planning based on the average or median would likely result in underproduction.

Inspection of the data shows that the low value is anomaly on November 11 caused by a power outage.

The anomaly is corrected by filtering the special notes or date columns to omit that day from the analysis.

The user may further filter based on weather. If rain is not forecasted, the user may expect between 100 and 120 customers subject to other qualitative variables and experience.



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PRODUCTION (PORTION) FORECASTING TEMPLATE

Production Planning (Portion Forecasting)

Enter forecasted number of customers [A]

Calculation Instructions
(“Entered” = data is provided by user, not calculated)

The number of extra portions to prepare to allow for variance from historical average [B]

Column Identifiers

Forecasted Customers [A]		Safety Portions [B]		Sales Reconciliation					
Product	Sales Mix	Required	On Hand	Prepare	Additional	Sold	Voids	Difference	Notes
Column	C	D	E	F	G	H	I	J	K
Formula	Entered	$A \times C + B$	Entered	$D - E$	Entered	Entered	Entered	$D + G - H - I$	Entered

Production Planning

Sales Reconciliation (Monitoring)

Production Planning

Forecasted Customers [A]	100	Safety Portions [B]	5		
Product	Sales Mix	Required	On Hand	Prepare	Add
Column	C	D	E	F	
Formula	Entered	$A \times C + B$	Entered	$D - E$	Entered
Chicken Entrée	40.0%	45	8	37	
Salmon Entrée	20.0%	25	3	22	
Vegan Entrée	15.0%	20	1	19	
Steak Entrée	25.0%	30	5	25	

Sales Mix [C]:

Sales mix represents the share of unit sales represented by a single item in the past. Sales mix may also be interpreted as the number of menu items portions anticipated to be sold for every 100 customers. For example, 40% of customers ordered the chicken entrée in the past.

Required Portions [D]:

The anticipated number of portions required for the production period. Estimated by multiplying the sales mix by the number of forecasted customers and adding the number of safety portions.

On Hand [E]:

The number of portions already prepared and available for the production period. This number is determined by physically inspecting the available items prepared.

Prepare [F]:

The number of portions that should be prepared for the period. The prepare number is calculated by subtracting on-hand portions from the required portions.

For example, 40% of the forecasted 100 customers are expected to order chicken. The safety is five portions so the required number of portions is 45 ($40\% \times 100 + 5$). Eight portions of chicken already exist so only 37 need be prepared.

Production Monitoring

Forecasted Customers [A]	Sales Reconciliation				
Product	Additional	Sold	Voids	Difference	Notes
Column	G	H	I	J	K
Formula	Entered	Entered	Entered	$D + G - H - I$	Entered
Chicken Entrée		40		5	
Salmon Entrée		24		1	
Vegan Entrée	5	22		3	
Steak Entrée		29	1	-	Over cooked Steak

Additional [G]:

If demand for a particular item exceeds the forecasted number of portions, additional portions may be prepared after initial production. These additional portions are added in the “Additional” column.

In this example, five additional vegan entrees were prepared.

Sold [H]:

At the end of the period, the number of portions sold for each menu item is entered into the “Sold” column.

Difference [J]:

The difference between total number of prepared portions (required plus additional) less sales and voids. The difference should match the number of portions on-hand at the end of the period; if not, waste or sales are not being tracked correctly, standard recipes may not be followed, or an issue with theft may exist.

Ideally, the difference should be less than, or close to, the safety portions.

Review of notes, differences and additional product requirements may be used to refine and improve future forecasts.

Void [I]:

Menu items that are returned after being sold may be voided and a replacement item prepared. Voids are recorded in the void column with a description in the “Note” column [K].



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WASTE LOG TEMPLATE

Waste Log Template: Customizing the Model

The **waste log** is designed to be used in either hard copy (manual) or electronic (automated) formats. The automated format uses lists of categories for two topics:

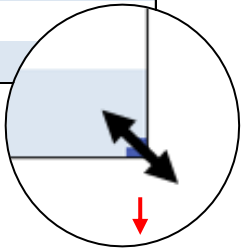
- Departments
- Waste Type

Categories for each topic must be contained in the respective lists on Sheet M2A – Waste Categories for the model to function correctly.

To remove a category from a list, select the item and click delete.

To add items, expand the table by moving the mouse over the bottom right corner of the list table until the cursor changes to bi-directional arrow. Click, hold and drag down until the desired number of additional rows appear.

Departments	Description
Receiving	
Refrigerated Storage	
Dry Storage	
Prep Area	
Service Line	
Bar	
Customer	



Departments	Description
Receiving	
Refrigerated Storage	
Dry Storage	
Prep Area	
Service Line	
Bar	
Customer	

Waste Log Template: Entering Data Into the Model

FOOD WASTE LOG										
Date	Reported by Employee	Department	Type of Waste	Product Description	Quantity	Unit	Cost per Unit	Total Cost	Reason / Cause	
	Jim	Refrigerated Storage	Cross Contamination	Lettuce Mix	1.00	case	\$ 40.00	\$ 40.00	Meat stored above lettuce dripped onto case	
	Sue	Service Line	Cross Contamination	Chopped Onions	500.00	grams	\$ 0.00	\$ 2.49	Spilled drink on service line	
	Sue	Service Line	Cross Contamination	Fried Onions	250.00	grams	\$ 0.01	\$ 1.25	Spilled drink on service line	
	Sue	Prep Area	Spillage	Cookies	24.00	each	\$ 0.25	\$ 6.00	Dropped tray (burned hand through oven mit)	
	Paul	Dry Storage	Spoilage	Potatoes	5.00	kg	\$ 0.99	\$ 4.95	Rotted	
	Paul	Receiving	Cross Contamination	Flour	20.00	kg	\$ 1.50	\$ 30.00	Bag placed in puddle on floor	
	Dave	Refrigerated Storage	Prep Error	Cream of Broccoli Soup	16.00	L	\$ 2.00	\$ 32.00	Burned soup	
	Jim	Refrigerated Storage	Spoilage	Chicken Breasts	20.00	kg	\$ 7.60	\$ 152.00	Freezer burnt in back of walk-in	
	Karl	Customer	Customer Return	Steak Entrée	1.00	each	\$ 10.79	\$ 10.79	Over cooked (well done vs rare)	
								\$ -		
								\$ -		
								\$ -		
								\$ -		

At the end of a shift or day, collect the hard copy forms and transfer the information to the electronic model found on sheet M2C – Waste Log Data.

Entering the data frequently may be advantageous as it reduces the amount of work required in one sitting, and allows waste issues to be identified and corrected more quickly.

Department and waste type categories are selected from in-cell drop-down menus in those columns.

Waste must be valued as it is entered.

The value of AP products (i.e., no additional processing has occurred since received from supplier), the value is the price per unit from the invoice.

For partially prepared products (i.e., peeled, chopped tomatoes, etc.) use the EP Value (AP value divided by yield ratio).

For prepared recipes, use the portion cost determined by the standard recipe cost form.

Once the cost per unit is entered, the model will calculate total cost for each line automatically.

The data table may be expanded in the same manner as described for the category tables

Waste Log Template:

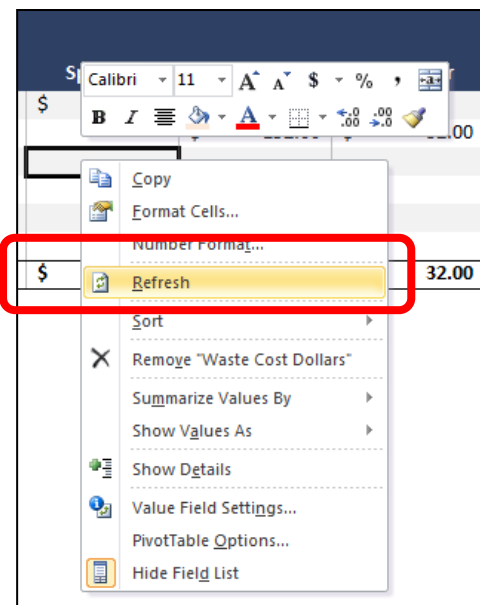
Waste Log Summary – Refreshing Data

The Waste log summary is an Excel pivot table found on Sheet M2D-Waste Log Summary in the tool kit.

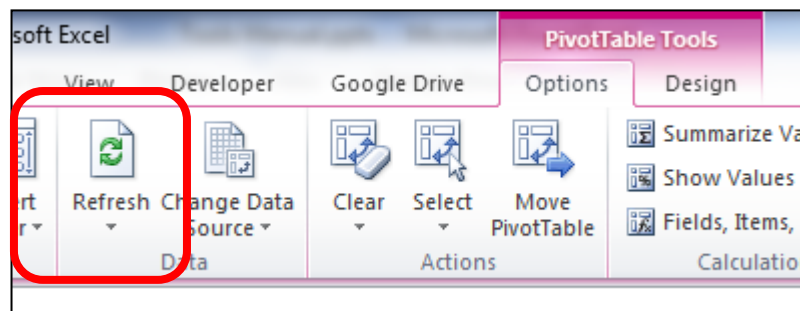
The table must be refreshed after changes or additions are made to the waste log data sheet. The Pivot Table may be refreshed using one of two methods.

Method #1: Right-click anywhere in the table and select “Refresh” from the menu that appears.

Method #2: Click anywhere in the table, then, in the Pivot Table Tools->Options Ribbon, click “Refresh”.



Method #1



Method #2

Waste Log Template:

Waste Log Summary - Interpretation

Waste Cost Dollars						
	Cross Contamination	Customer Return	Prep Error	Spillage	Spoilage	Grand Total
Customer		\$ 10.79				\$ 10.79
Dry Storage					\$ 4.95	\$ 4.95
Prep Area				\$ 6.00		\$ 6.00
Receiving	\$ 30.00					\$ 30.00
Refrigerated Storage	\$ 40.00		\$ 32.00		\$ 152.00	\$ 224.00
Service Line	\$ 3.74					\$ 3.74
Grand Total	\$ 73.74	\$ 10.79	\$ 32.00	\$ 6.00	\$ 156.95	\$ 279.48

The waste log summary shows total waste value by department and type of waste to help identify and prioritize waste issues.

In the example above, total food waste for the period is \$279.48. Spoilage is identified as the greatest cause of waste (\$157). Most waste (\$224) occurs in refrigerated storage.

The next step in the process is to return to the waste data log and filter the waste log data table to learn more about the waste and how it occurred.

In this example, the user may wish to investigate spoilage in refrigerated storage.

To do this, return to Sheet: M2C – Waste Log Data. Using the table filtering methodology described for the Customer Forecasting Template earlier in this Manual, filter the type column to include only waste caused by spoilage, and filter the department column to include only waste located in refrigerated storage.

Waste Log Template:

Waste Log Summary – Follow Up

FOOD WASTE LOG									
Date	Reported by Employee	Department	Type of Waste	Product Description	Quantity	Unit	Cost per Unit	Total Cost	Reason / Cause
	Jim	Refrigerated Storage	Spoilage	Chicken Breasts	20.00	kg	\$ 7.60	\$ 152.00	Freezer burnt in back of walk-in

As previously noted, having identified a significant waste issue in the Waste Log Summary, the user may return to the waste data log and filter to contents based on the identified department and type of waste.

In this example, filtering for refrigerated storage and spoilage, the user sees that the waste was limited to one item: a case of chicken breasts.

If more information is required, the user may follow up with Jim who reported the waste.

Discussions with Jim may reveal that the case was found behind other products, indicating that proper stock rotation was not used.

Proper stock rotation is a training opportunity and is easily implemented and enforced in the future with proper labeling and careful monitoring.

This is a simple, one-time example, but the same process may uncover patterns such as many spoilage issues from a specific refrigerator that may suggest malfunctioning equipment that needs maintenance.

The process may also identify chronic over production or other issues resulting in greater than acceptable waste.

Because a dollar value is assigned to the waste, the tool also helps operators make financial decisions regarding investments to reduce waste and find tools whose cost of purchased and use are less than the potential waste if the tool is not used.

A vertical column of five circular icons on the left side of the slide, connected by a line. The icons represent: 1. A person with a thought bubble containing a lightbulb and a wrench. 2. Two people standing at a counter, one handing a document to the other. 3. A thermometer. 4. A plate with a fork and knife. 5. A plate with a fork and knife.

FOODSERVICE
FOOD WASTE PREVENTION

SHRINKAGE MONITORING

Calculating Actual Cost of Goods Sold

Opening Inventory Value		\$	1,000
Purchases	+		10,000
Available Food Inventory	=	\$	11,000

Closing Inventory	-	\$	750
Consumed Food Inventory	=	\$	10,250

Interdepartment Transfers OUT	-	\$	100
Interdepartment Transfers IN	+		125
Intraunit Transfers OUT	-		50
Intraunit Transfers IN	+		-
Employee Meals	-		60
Actual Cost of Goods Sold	=	\$	10,165

Actual Cost of Goods Sold is the amount of goods used to generate sales in a given period and includes inefficiencies such as waste and other causes of shrinkage.

To calculate actual cost of goods sold, start with the opening inventory value for the beginning of the period (based on a physical count of goods in store and accepted pricing for those goods). Add to the opening inventory the value of all goods purchased during the period. Combined, this is the total available inventory for the period, which is either used or not used.

Subtracting closing inventory (unused goods) from the available inventory, isolates the amount of goods used or consumed during the period. After adjusting for transfers between departments within in the operation, transfers between other external operations (i.e., another location of the same brand, etc.), employee meals (if applicable) and other adjustments, the remaining value is the actual cost of goods sold.

The functioning version of the calculator on the left may be found in the tool kit on Sheet M3-Actual COGS.

Theoretical Cost of Goods Sold

Theoretical cost of goods sold are the standard of what your actual cost of goods should be if everything goes as planned and standard recipes are followed. This metric is based on the standard cost for each item and the number of units sold.

Theoretical cost of goods sold is an ideal and excludes allowances for shrinkage. Because of this, the metric may be used as a benchmark to identify shrinkage.

Users may complete this form manually (formulas are provided) or electronically (the formulas are automated). Enter the required data into Columns A, B and C.

Cost [A]: the standard cost developed using standard recipe cost form or the AP cost for unprocessed goods sold directly to customers.

Menu Item	Portion		Total		
Name / Description	Cost	Menu Price	Units Sold	Cost	Sales
Column	A	B	C	E	F
Formula	Entered	Entered	Entered	C x A	C x B
Chicken Entrée	\$ 7.80	\$ 22.95	400	\$ 3,120	\$ 9,180
Salmon Entrée	\$ 10.06	\$ 28.75	240	\$ 2,414	\$ 6,900
Vegan Entrée	\$ 4.89	\$ 19.50	220	\$ 1,076	\$ 4,290
Steak Entrée	\$ 15.20	\$ 38.00	290	\$ 4,408	\$ 11,020
Total [Sum of all rows above]			1,150	\$ 11,018	\$ 31,390
Theoretical Food Cost [Total Cost ÷ Total Sales]				35%	

Menu Price [B]: the price per unit as sold to the customer.

Total Units Sold [C]: the number of units purchased by customers during the period.

Total Unit Cost [E]: Cost per unit multiplied by the number of units sold for each row/item.

Total Item Sales [F]: Price per unit multiplied by the number of units sold for each row/item.

Total unit costs are summed to find total theoretical cost of goods sold. Total unit sales are summed to find total theoretical sales.

In this example, the operator generated \$31,390 in sales and in theory should have incurred \$11,018 in directly variable product costs (cost of goods sold) representing 35% of sales.

Calculating and Analysing Shrinkage

The Shrinkage Calculator (right) is used to identify and compare waste relative to sales. The Calculator may also be used to determine the effectiveness of the Waste Log at capturing waste and potentially identify issues not captured by the Waste Log. The Calculator may be found in the Tool Kit on Sheet: M5-Shrink Calculator.

The calculator may be printed and used manually, or (ideally) used electronically. When used electronically, the values are automatically populated from the previous forms in the Toolkit: Actual Food Cost, Theoretical Food Cost and Waste Log Value.

Interpreting the Results:

In this example, sales for the period were \$31,190. Actual cost of goods sold were \$11,968; however, based on the items that were sold and the associated standard costs, cost of goods sold should only be \$11,018. The difference between these two numbers is “Shrinkage”.

	Dollars	Percentage of Sales
Actual Sales Dollars for Period	\$ 31,390	100.0%
Actual Cost of Goods Sold (Inventory Method)	\$ 11,968	38.1%
Theoretical Cost of Goods Sold	- \$ 11,018	35.1%
Shrinkage / Potential Savings	= \$ 950	3.0%
Shrinkage / Potential Savings	\$ 950	3.0%
Waste Log Value	- \$ 679	2.2%
Unaccounted Loss	= \$ 271	0.9%

Shrinkage is \$950, representing 3% of total sales. Of that \$950, \$679 is known waste, tracked using the Waste Log. The tracked waste data in the Waste Log provides the details needed to reduce this component of the shrinkage.

The difference between shrinkage and the waste log value is unaccounted loss. This number is useful for identifying issues related to waste not being tracked properly and other control issues such as theft.

Some level of unaccounted loss is expected. Variances in AP prices during the period, soup left on the sides of a soup kettle and other day-to-day untraceable waste will usually occur. As a rule of thumb, this figure should represent less than 1% of sales. If unaccounted loss is greater than 1%, operational controls should be examined for effectiveness and enhanced.

Disclaimer

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All Information provided in this Toolkit was drawn from the author's experiences, expertise and interviews conducted with BC based food service and food retail businesses. This information is intended to be as broad as possible to be applicable to food service and food retailers throughout B.C. Actual quantities of food waste, and tools and strategies to reduce food waste are highly site specific. As such, information presented in this Toolkit should be viewed as ballpark estimates only. fsSTRATEGY Inc. will not be liable for any claims, damages or losses of any kind arising out of the use of, or reliance upon, this Toolkit.

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