Food Waste Tracking:
What You Need to Know

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My perspective

• Co-founder of LeanPath, a technology company providing food waste tracking systems
• Food waste management consulting and education
• Co-author of Food Waste Focus blog
• Experience with volume foodservice across the US
Why Track Food Waste?
Estimate:
>.3 lbs per meal served
Why focus on food waste?

The Case For Food Waste Reduction

- Reduce Environmental Impacts
- Reclaim Financial Resources
- Engage Staff
Environmental Impact

Upstream

Downstream
The Real Cost of Waste

“Real Cost of Waste’
Scope

Food waste generated by the operator ("pre-consumer waste") represents 4-10% of the food purchased in volume foodservice.

Up to $100K in Food Waste!

Example: $1.0M Food Purchases
So where do we start?
EPA Food Waste Recovery Hierarchy

- **Source Reduction**: Reduce the volume of food waste generated.
- **Feed Hungry People**: Donate extra food to food banks, soup kitchens, and shelters.
- **Feed Animals**: Divert food scraps to animal feed.
- **Industrial Uses**: Provide waste oils for rendering and fuel conversion; and food scraps for digestion to recover energy.
- **Composting**: Create a nutrient-rich soil amendment.
- **Landfill/Incineration**: Last resort for disposal.

Positive

Negative
How To Tackle Source Reduction?

Source Reduction — Reduce the volume of food waste generated

Feed Hungry People — Donate extra food to food banks, soup kitchens, and shelters

Feed Animals — Divert food scraps to animal feed

Industrial Uses — Provide waste oils for rendering and fuel conversion; and food scraps for digestion to recover energy

Composting — Create a nutrient-rich soil amendment

Landfill/Incineration — Last resort for disposal
As often practiced...

- Source Reduction — Reduce the volume of food waste generated
- Feed Hungry People — Donate extra food to food banks, soup kitchens, and shelters
- Feed Animals — Divert food scraps to animal feed
- Industrial Uses — Provide waste oils for rendering and fuel conversion; and food scraps for digestion to recover energy
- Composting — Create a nutrient-rich soil amendment
- Landfill/Incineration — Last resort for disposal
Source Reduction

Often overlooked

• Not as tangible as composting or food recovery

• Operators, consultants and government aren’t sure what tools are available to address the problem
How To Tackle Source Reduction?

Source Reduction — Reduce the volume of food waste generated

Feed Hungry People — Donate extra food to food banks, soup kitchens, and shelters

Feed Animals — Divert food scraps to animal feed

Industrial Uses — Provide waste oils for rendering and fuel conversion; and food scraps for digestion to recover energy

Composting — Create a nutrient-rich soil amendment

Landfill/Incineration — Last resort for disposal
Food Waste Tracking
Frameworks Point to Measurement

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“We manage the things we measure”

If we don’t track how much we throw away, how do we really know what and how to improve? If we don’t measure, we’re guessing.
Feedback loops focus behavior and drive change
Impact from Tracking

Tracking enables you to:
• Establish baselines
• Diagnose issues
• Raise employee awareness
• Raise guest awareness
• Create accountability
• Monitor & benchmark progress.
Reduction & tracking = Two sides of one coin.
How to Track Food Waste?
Two Types of Food Waste

Pre-Consumer Food Waste
(aka “Kitchen Waste”)

Post-Consumer Food Waste
(aka “Plate Waste”)

Different Tracking Approach for Each
## Pre/Post Food Waste Dynamics

<table>
<thead>
<tr>
<th></th>
<th>Pre-Consumer</th>
<th>Post-Consumer</th>
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<tbody>
<tr>
<td><strong>Drivers</strong></td>
<td>Overproduction, spoilage, expiration, trim waste, communication, adherence to forecasts/recipes</td>
<td>Guest awareness and behavior, portion sizes, self-service</td>
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<td><strong>Natural state?</strong></td>
<td>Source-segregated</td>
<td>Commingled</td>
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<tr>
<td><strong>Cost impact</strong></td>
<td>Large, direct</td>
<td>Varies by op; indirect</td>
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<td><strong>Driven by:</strong></td>
<td>Kitchen staff</td>
<td>Guests</td>
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<tr>
<td><strong>Conclusion</strong></td>
<td>Track it all, every day</td>
<td>Assess periodically (monthly, quarterly)</td>
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How to Track Pre-Consumer Food Waste (aka Kitchen Waste) Continuously
What To Track

• Overproduction
• Spoilage
• Expired/Dated Items
• Trim Waste
  – (i.e. fresh fruit rinds)
• Contamination
• Burned/Dropped Items
Look at Workflow

- Kitchen
  - Hot Production
  - Cold Production
  - Other Areas

- Collection Point
  - Garbage/Disposal
  - Pot Wash

- Servery
  - Hot Line
  - Salad Bar
  - Other Cafes & Kiosks
Policies

• Establish a review policy
  – With full attention to food safety
  – Appropriate staff involved

• Record what cannot be used on-site
  – Includes items to be donated, composted, or landfilled
Decide How Much Detail

• The more detail, the greater opportunity to pinpoint savings
• Larger operations will usually benefit by savings pennies and nickels across massive footprints
• Smaller operations may choose to focus on less granular detail
Basic Information

• Date & Time
• Recording Employee Name
• Food Item
  – by general category e.g. “Produce”
  – Very specifically e.g. Apples
• Reason for Loss
• Unit of Measure
  – Weight, Volume or Each/Count
Advanced Information

- Container (for Tare Weight)
- Station/Source
- Disposition
- Daypart
- Banquet Event Order #
- Pre v. Post Consumer
- Overs / Not-Yet-Waste (NYW)
- Notes
Tool Options

• Paper Sheets
  – Suited for lowest volume ops, no detail; lowest cost

• Software Tracking + Paper
  – Suited for low-medium ops, good detail.

• Full Automation
  – Suited for higher-volume ops, maximum detail
  – Easiest for staff to use, easiest for managers to run
  – Higher cost, but can deliver powerful ROI (~4%+ food cost savings)
Basic Paper Log Book

Waste Logbook – XYZ Restaurant

<table>
<thead>
<tr>
<th>Time</th>
<th>Recorded By</th>
<th>Food Type</th>
<th>Loss Reason</th>
<th># of Portions</th>
<th># of Quarts</th>
<th># of Pounds</th>
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TOTAL

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For information on waste-tracking technology tools, visit www.leanpath.com

www.leanpath.com
## Advanced Logbooks + Software

- Grouping by Food or Loss Categories
- Designed for ease of input into reporting software package

### WasteLOGGER - Corner Bistro

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Qty</th>
<th>Size</th>
<th>Fan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expiration</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total Waste</td>
<td></td>
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<tr>
<td>Spoilage</td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
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### Advanced Logbooks + Software

- **Grouping by Individual Transaction Frames**
- **Also designed for ease of input into reporting software package**
Advanced Logbooks + Software

- Menu manifest approach
- Also designed for ease of input into reporting software package
Fully Automated Tracking
Waste Recording: Step 1
Waste Recording: Step 2

Select Your Name

More
Waste Recording: Step 3
Waste Recording: Step 4

4.8 lb. set zero
Vangie C

Select Reason
Chix
Select Container

Burned/Overcook
Cater Overproduction
Contaminated
Dropped/spilled
Expired
More

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Waste Recording: Step 5

4.8 lb
Vangie C
Chix
Dropped/spilled
Select Container

Coffee Shuttle
Full Hotel Pan (1")
Full Hotel Pan (2.5")
Full Hotel Pan (4")
Full Hotel Pan (6")
More

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Waste Recording: Step 6

- Coffee Shuttle
- Full Hotel Pan (1"")
- Full Hotel Pan (2.5"")
- Full Hotel Pan (4"")
- Full Hotel Pan (6"")
- More

4.8 lb.

Vangie C
Chix
Dropped/spilled
Full Hotel Pan (1"")

Save

X

Multiply
Waste Recording: Step 7

10.0 lb. set zero

Jun 19, 2009 12:09:36 PM

Weigh More

Done

Value of Last Recorded Item: $42.81

A/N Settings
Control Panel
View/Change
Paper Tracking
After Data Collection

• Collecting data is the first step
• Reviewing and using the data is absolutely critical to drive results
  – Compile the data to see opportunities
    • Many are hidden
  – Review trends
  – Set focus areas and follow progress
• Filing sheets after a quick scan= “no-no”
  – Like revving your car’s engine in neutral
How to Compile Data

• If using paper:
  – Use MS Excel or Access
  – Key in data
  – Calculate weekly and monthly totals
  – Break down by either food or loss reason
    • Difficult to do both unless you have database skills
How to Compile Data

• If using **software**:  
  – Use specialized waste tracking application with a custom interface designed to make the data entry process easy  
  – Print memorized reports and review outcomes  
  – Much easier than paper + Excel!
How to Compile Data

If using full automation:

• Import data automatically; no secondary data-entry/compiling step because it happens automatically
• Print reports & review outcomes
• Easiest approach
Engage Staff

- Post reports
- Discuss in line-ups/pre-shifts
- Recognize engaged staff
- Set specific focus areas for improvement
Training

• All successful tracking programs require
  – Staff training
  – Expectations/standards for participation
Post-Consumer Waste Tracking
Post-Consumer

• Same methods as pre-consumer:
  – Paper
  – Software+ Paper
  – Full automation

• Conducted only periodically

• Goal is not production & purchasing
  – Focused on menu analysis
  – Focused on guest education & engagement
Mechanics are Different

• Staff Tracks Post-Consumer
  – Dish room staff scrapes into totes for weighing

• Guests Self-Track
  – Scrape & weigh station
  – Best for non-commercial (e.g. schools, colleges)
Education & Review

• Post results publicly
• Communicate actions guests can take to reduce waste
• Assess menus to avoid high-waste items
Evaluating Tracking Data
Trends

Trend Report-12 Week

Date: 03/24/2009 - 06/15/2009
Grand total: $12852
Filtered total: $12852

Filter used: Pre-Consumer Waste AND (Timestamp >= 2009/03/24 00:00:00 AND Timestamp < 2009/06/15 00:00:00)
Top 5’s and Comparisons

Top 5-Food Categories

Legend
- Week 1: 08/07/2009 Total: $939, Filtered: $473
- Week 2: 05/31/2009 Total: $1022, Filtered: $346

- Mixed Retail
  - Week 1: $52
  - Week 2: $75

- Starch
  - Week 1: $98
  - Week 2: $96

- Food Type
  - Week 1: $66
  - Week 2: $92

- Cooked Veg
  - Week 1: $82
  - Week 2: $84

- Puree
  - Week 1: $55
  - Week 2: $55

Waste ($)
Others

- High Items
  - Big $$’s
- Focus Items
  - Areas you select
- Data quality
  - Missing items
- Close-ups
  - Stations
  - Most Overproduced Items
Food Waste Focus
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Notes

leanpath.com/notes
Q&A

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