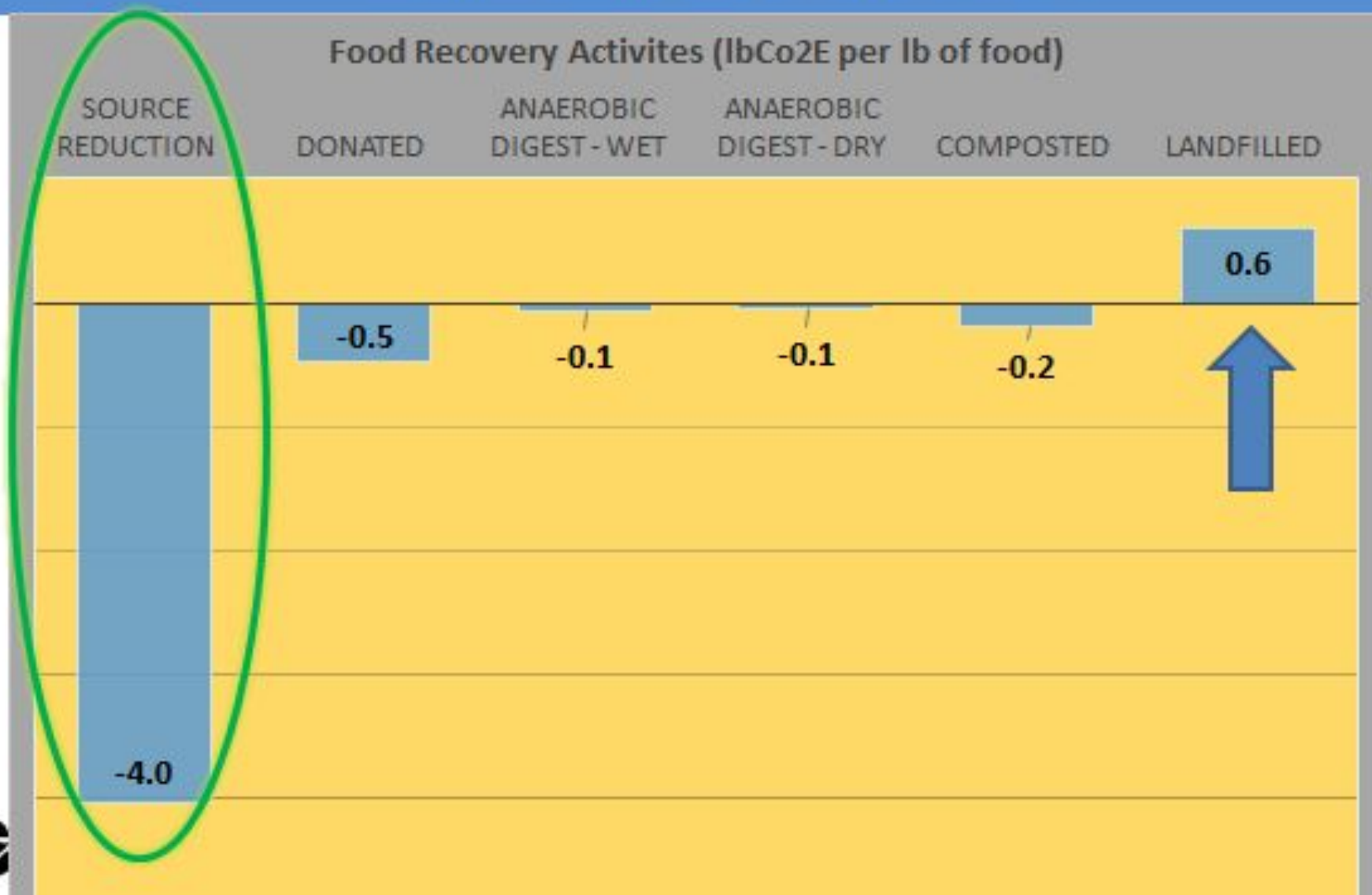# MEASURING WASTED FOOD: 3 METHODS

Zero Food Waste Forum

October 19, 2018

Wendi Shafir

Source Reduction – greatest GHG benefits
– calculated using EPA WARM model

Food Recovery Activites (lbCo2E per lb of food)

SOURCE REDUCTION	DONATED	ANAEROBIC DIGEST - WET	ANAEROBIC DIGEST - DRY	COMPOSTED	LANDFILLED
-4.0	-0.5	-0.1	-0.1	-0.2	0.6

The Three Methods: Sort, Audit, Track

- **Wasted Food Sort**: snapshot of **amount and type** of discarded food.

- **Wasted Food Audit**: snapshot of **amount, type and *reasons*** for the wasted food.

- **Wasted Food Tracking**: longer-term (weeks – ongoing) generally back-of-house. **Amount, type and *reasons*.**

Wasted Food <mark>Sort</mark>

- Sort edibles, non-edibles + recyclables
  - Manually sort a sample of garbage waste
  - Visual observation and estimation
- Duration
  - One meal service or day
- Aka <u>waste characterization study</u>
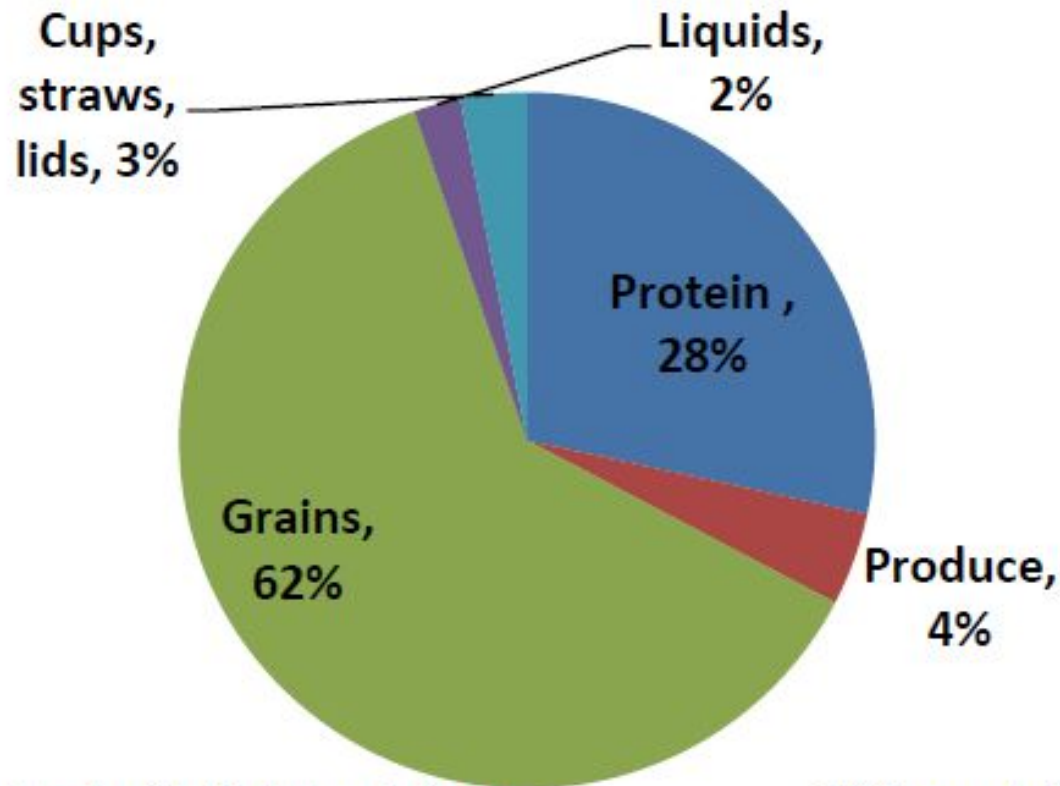
- May be pre, post-consumer or both

Wasted Food <mark>Sort</mark> Logistics

Wasted Food <mark>Sort</mark> Data Analysis

Cups, straws, lids, 3%

Liquids, 2%

Protein, 28%

Grains, 62%

Produce, 4%

Protein - beef patty, hot dog, ck fingers
Grains - pasta, rice, fries

58.6 pounds food

Back of the house characterization – Game Day

<mark>Sort</mark> Pros and Cons

- Gives snapshot in time

- Can extrapolate from the data
- Limited duration
- Uses mostly inexpensive equipment
- Low level expertise required

- Requires coordination, staff time
- Does not provide reason for waste

Wasted Food Sort Guides

HOTEL | KITCHEN

Fighting Food Waste in Hotels

EPA Sustainable Materials Management

Rethink

CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW

A Guide to Conducting and Analyzing a Food Waste Assessment
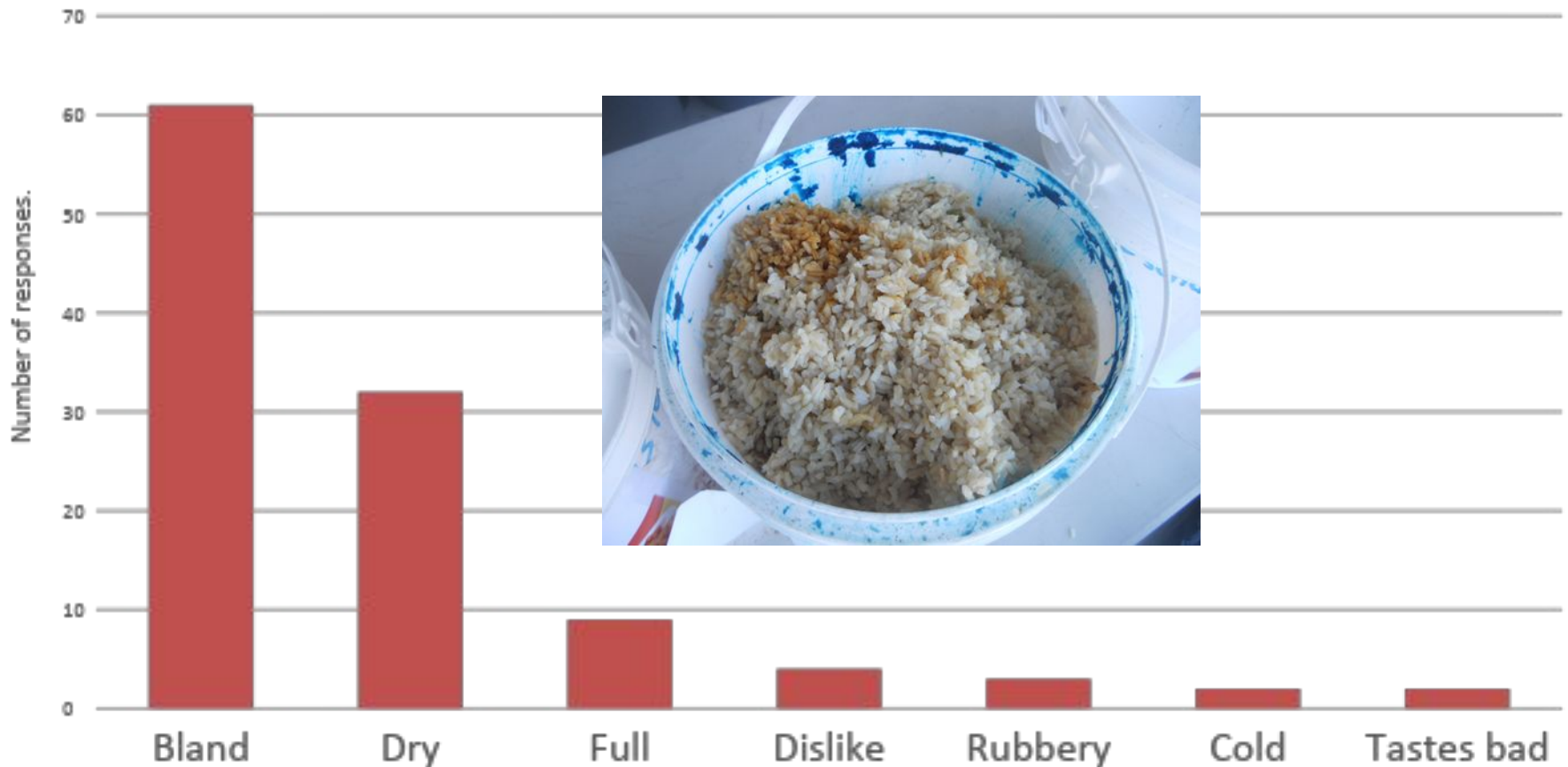
March 2014

Wasted Food <mark>Audit</mark> Overview

- Measure plate waste

- AND back-of-house excess/waste

- Includes *reason* for waste

  – *Interview* diners, kitchen staff

- Can calculate cost of wasted food

- Identify targeted solutions

Wasted Food Audit
Data Analysis

Audit Pros and Cons

- Gives snapshot in time, can extrapolate
- Limited duration, but takes longer than a Sort
- Uses mostly inexpensive equipment
- Mid level expertise required for interviews
- Requires permission from venue
- Need cooperation from diners, +/-staff for interviews
- Requires coordination, staff time
- Provides reason for waste

Wasted Food **Audit** Measurement Guides

Guide to Conducting Student Food Waste Audits

A Resource for Schools

REDUCE YOUR FOOD WASTE

How to Conduct a Food Waste Audit

#ENDSANDSTEMS

ends+stems

November 20, 2017

Wasted Food <mark>Tracking</mark> Overview

- Multi-day tracking systems assess:
  - Amount and type of wasted food
  - Reasons
  - Patterns

  *Usu. Back of house

- Manual or automated

Wasted Food ==Tracking== Data Recording

- Types of waste tracked:
  - Kitchen (Back-of-the-House) Primary
  - Plate (Front-of-the-House)
  - Packaging
- Can measure:
  - Amounts and types of wasted food & packaging
 - Causes of waste generation
  - Patterns of waste generated

Wasted Food ==Tracking== Data Analysis

Table 1: Tracking Example: Results from the Food and Packaging Waste Prevention Tool
(weekly pounds of wasted food)

Kitchen Food Waste	Prep Waste	Improperly Cooked	Stored Food Expired	Arrived Spoiled	Food Sent Back by Customer
Protein	0	5	33	0	0
Grain	6	1	0	0	0
Fruit and Vegetables	8	0	5	16	0
Dairy	3	0	0	0	0
Other	0	0	0	0	0
TOTAL	17	6	38	16	0

Manual Wasted Food <mark>Tracking</mark> Guide

2 resources in 1 toolkit: a PDF guide and a programmed Excel spreadsheet

Kitchen Food Waste
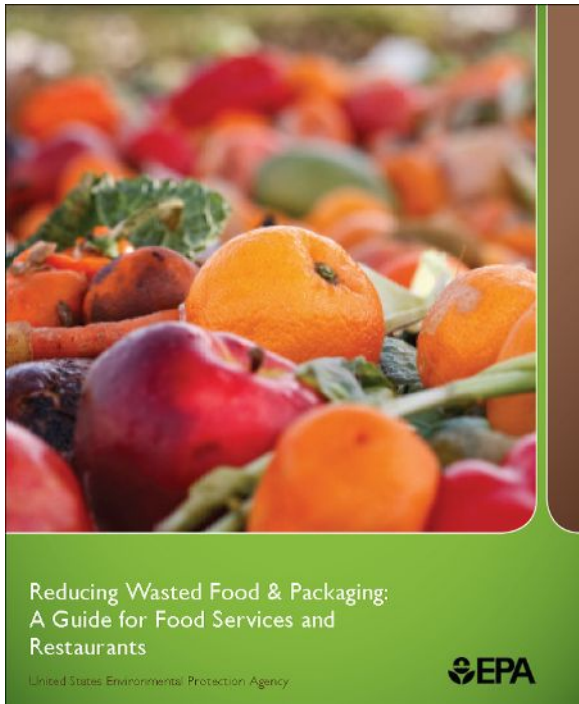
PDF guide:
http://www.epa.gov/foodrecovery/docs/reducing_wasted_food_pkg_tool.pdf

Excel tracking spreadsheet:
http://www.epa.gov/waste/conserve/foodwaste/docs/foodwaste_audit_tool.xlsm

Automated Wasted Food Tracking

Subscription-based automatic tracking services: examples

- LeanPath

- Trim Trax

- Winnow

- Still require staff buy-in, cooperation
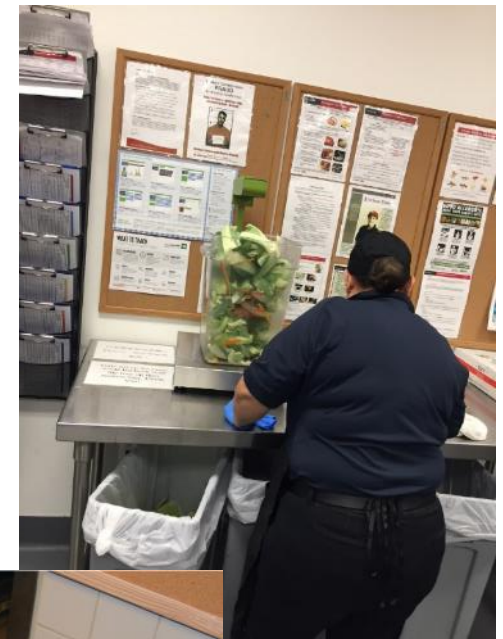
Tracking Pros and Cons

- Gives data over time, improved accuracy
- Minimal disruption in service
- Uses more expensive equipment
- May involved ongoing costs for subscription
- Mid level expertise required
- Requires coordination, staff time
- Provides reason for waste, trends analysis

How to decide on approach

- What do you want to know?

- What can you act on?

- Do you have time and resources? Support?

- Do you have access to the wasted food?

- Food Loss and Waste Protocol has decision tool - [FLW Quantification Method Ranking Tool](#)

- [Guidance on FLW Quantification Methods](#) has more info on different options

WENDI SHAFIR

wendishafir@protonmail.com
650-576-2601