FOOD WASTE MANAGEMENT FROM PREVENTION TO DISPOSAL

Association for Correctional Food Service Affiliates (ACFSA)
2013 Annual International Conference

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About LeanPath

Focused 100% on food waste prevention

- **Vision:**
  Enable dramatic reduction in global food waste, i.e. “Take a Bite Out of Global Food Waste.”
- **Mission:**
  To use an understanding of foodservice culture and modern technology to enable chefs and managers to implement less wasteful and more profitable culinary practices.
- **We Serve:**
  Customers in 48 states, including colleges, healthcare, senior living, business dining, contract managers, military, restaurants, casino hotels and food retailers
- **History**
  Founded in 2004 – Working on our 10th year of waste prevention. Headquartered in Portland, Oregon with team members in Massachusetts, New York, Charlotte, and California.

My perspective

- I've seen a lot of food waste!
  - Co-founder of LeanPath: We make food waste tracking systems
  - Food waste consultant
  - Contributing author to *Food Waste Focus* blog and *Greening Food & Beverage Services* textbook.
- But…I've also seen foodservice operators dramatically reduce it!

The Past:

FOOD WASTE WAS AFFORDABLE AND SOMEONE ELSE'S CONCERN

The Present:

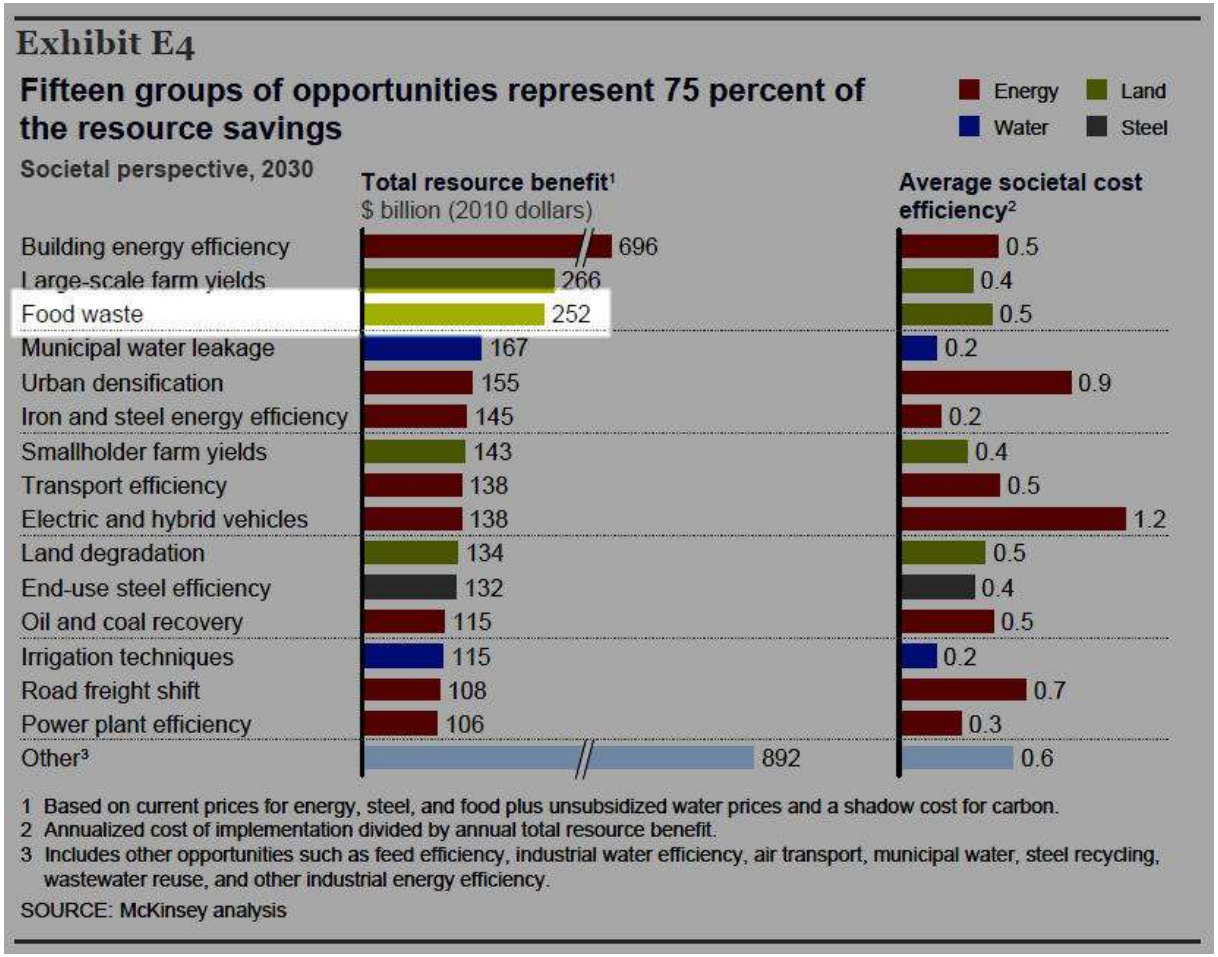
FOOD WASTE IS A RESOURCE AND WE EACH HAVE A ROLE TO PLAY

Questions We'll Answer Today

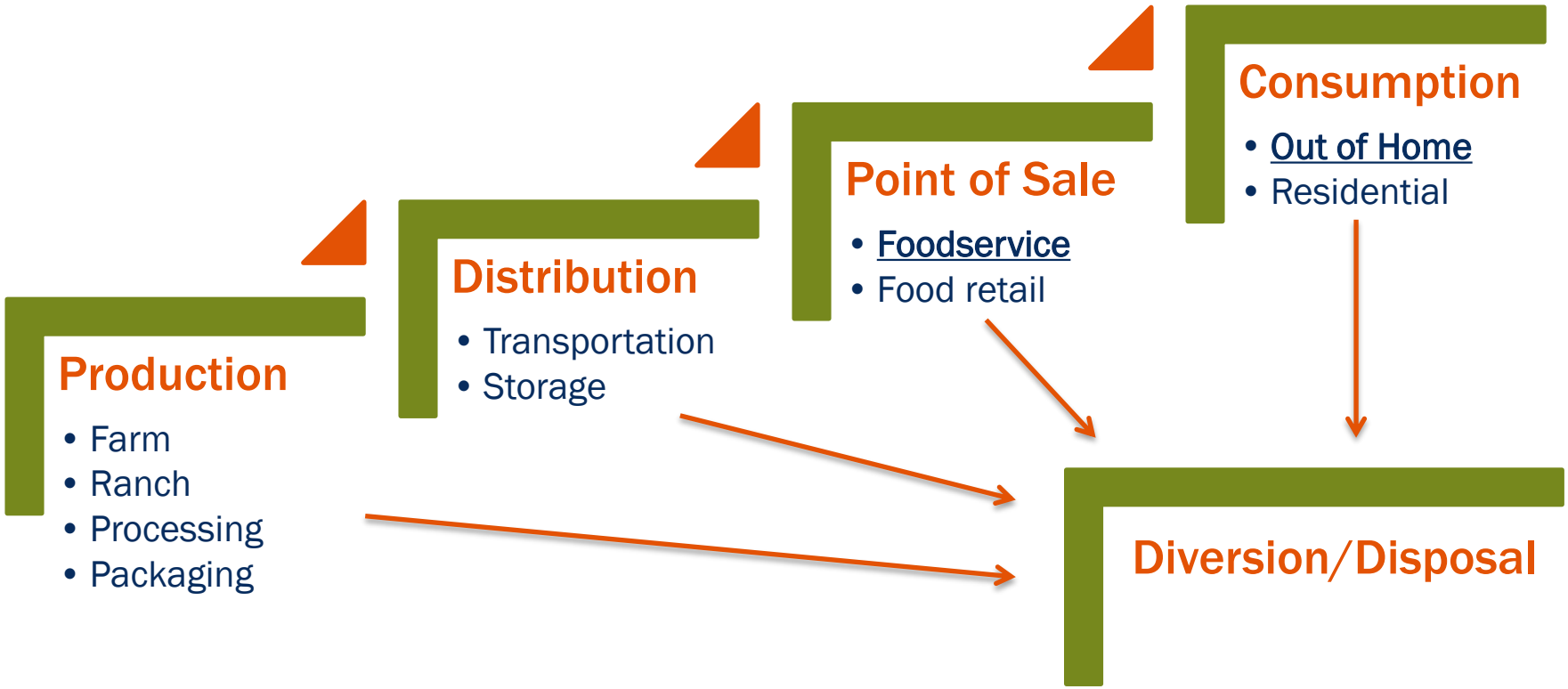
- Why does food waste matter?
- What's the single most important food waste management strategy and what tools exist to address it?
- What equipment options exist to manage food waste and how do they help?
- What should be on your action checklist?

First, a Look at the Global Issue

Top 3 Global Resource Opportunity



The Food Waste Chain



Two Types of Food Waste

Most Common Reasons for Food Waste

Pre-Consumer

- Overproduction
- Expired/Dated Items
- Spoilage
- Trim Waste
- Others
  - Contamination
  - Burned
  - Dropped

Post-Consumer

- Portion sizes
- Self-service
- Menu acceptance
- Quality assurance

Food Waste in Foodservice

HOW MUCH OF THIS PROBLEM STEMS FROM U.S. FOODSERVICE OPERATIONS?

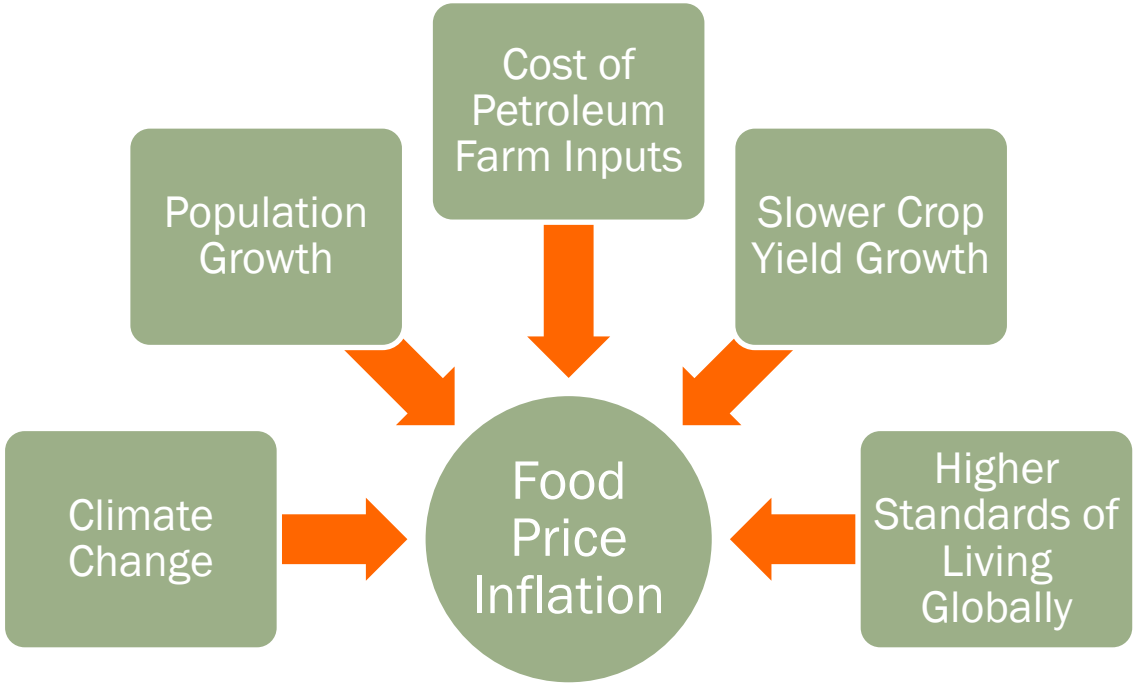
4–10% of food purchased is **THROWN OUT** before reaching a plate.

$8–20 BILLION of pre-consumer waste generated by the U.S. out-of-home restaurant and foodservice industry every year.

Pre-consumer waste is the kitchen waste that occurs before the food even reaches a guest, from **OVERPRODUCTION, SPOILAGE, EXPIRATION** and **TRIMMINGS.** It's within the control of the foodservice operator and can be prevented!

http://goo.gl/8GGeD

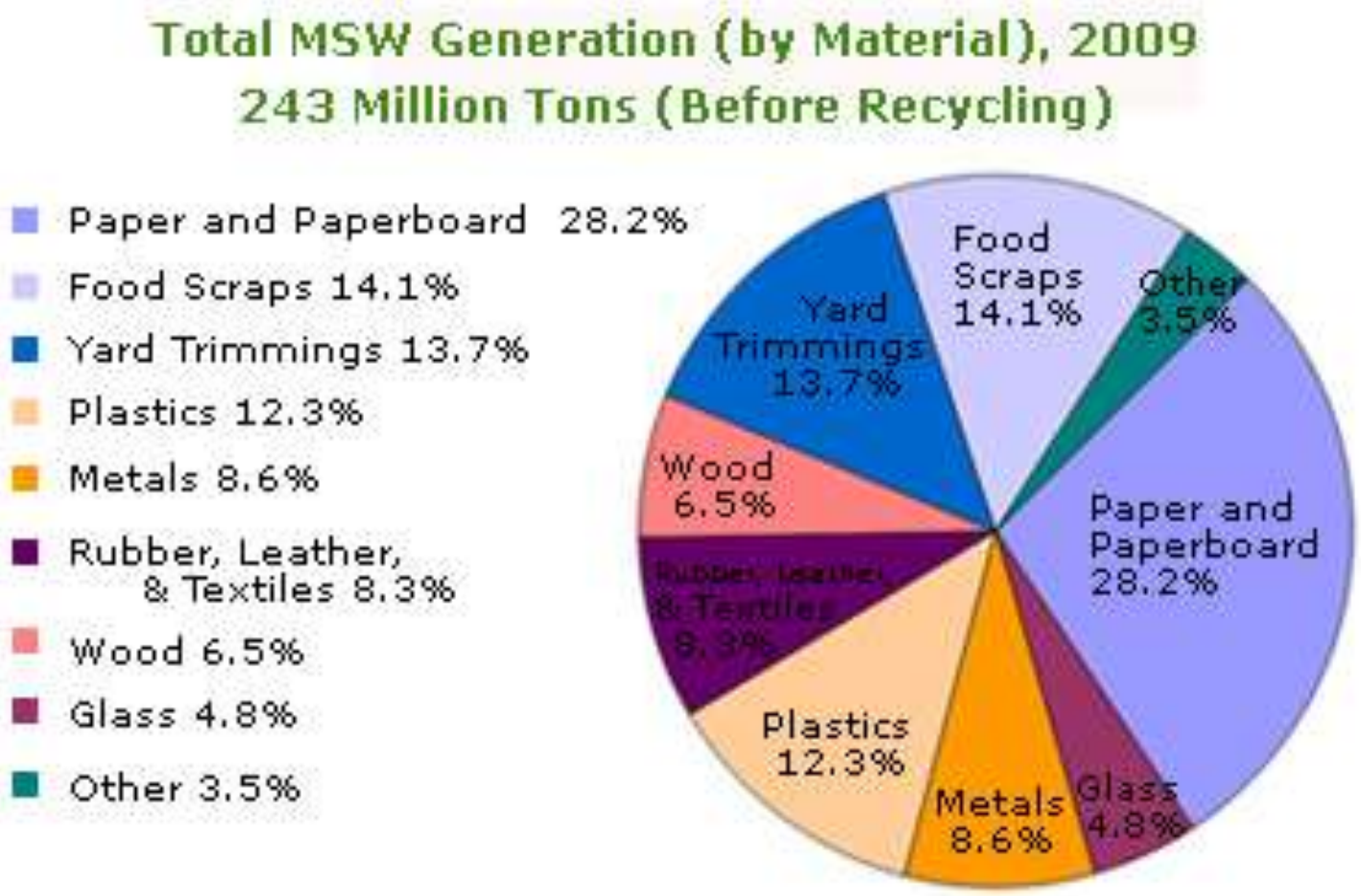
Food Prices Not Getting Better Soon



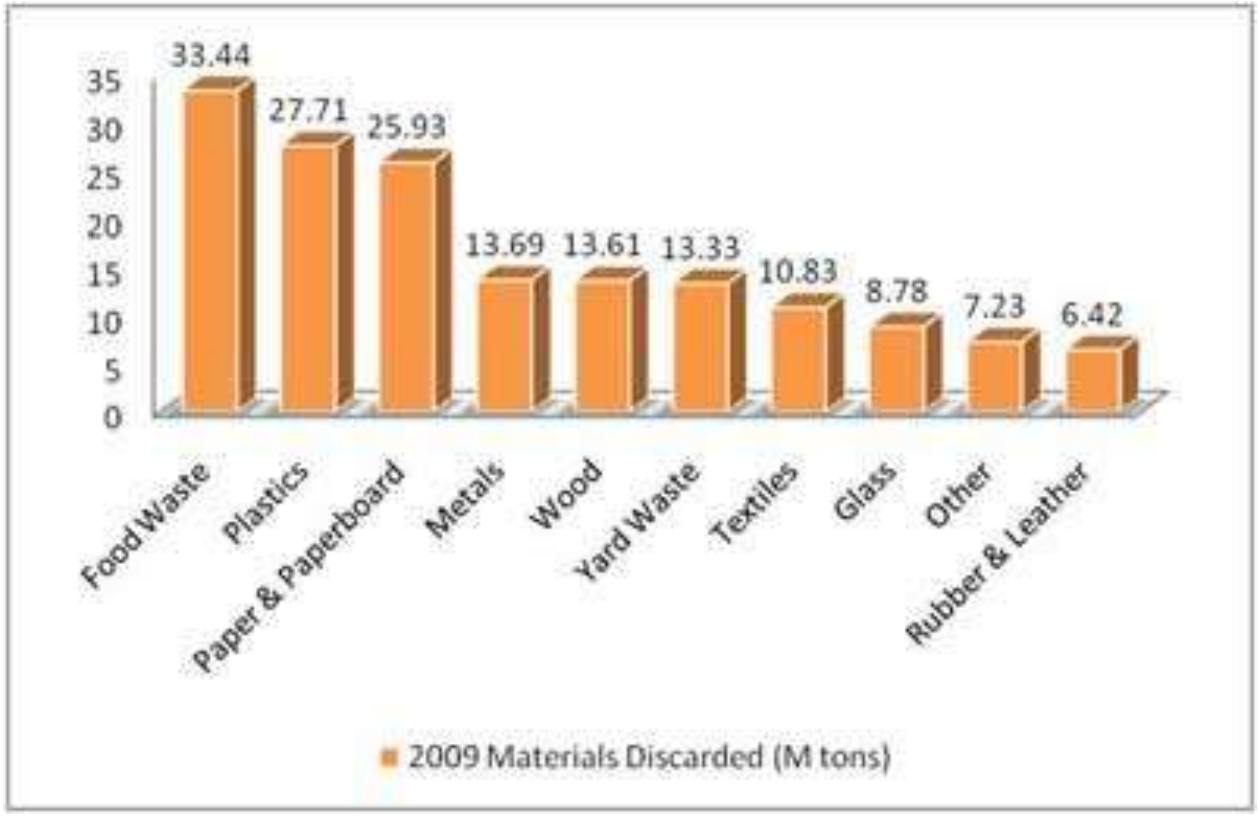
"Global food prices probably will rise in the first half of this century because of an expanding population and higher incomes, slower crop-yield growth and the effect of climate change"

- Ross Garnaut, the Australian government's climate-change adviser, as quoted in BusinessWeek. March 3, 2011.

Food Waste–14.1% of MSW



Regulatory Attention



“Food waste now represents the single largest component of MSW reaching landfills and incinerators.” – U.S. EPA

The Journey of a Wasted Sandwich

- *Wheat*
- *Ham*
- *Cheese*
- *Butter*
- *Greens*
- *Tomato*

Upstream Impact

Farm → Transit → Loading → Storage → Prep




Production → Holding Finished Goods → Service

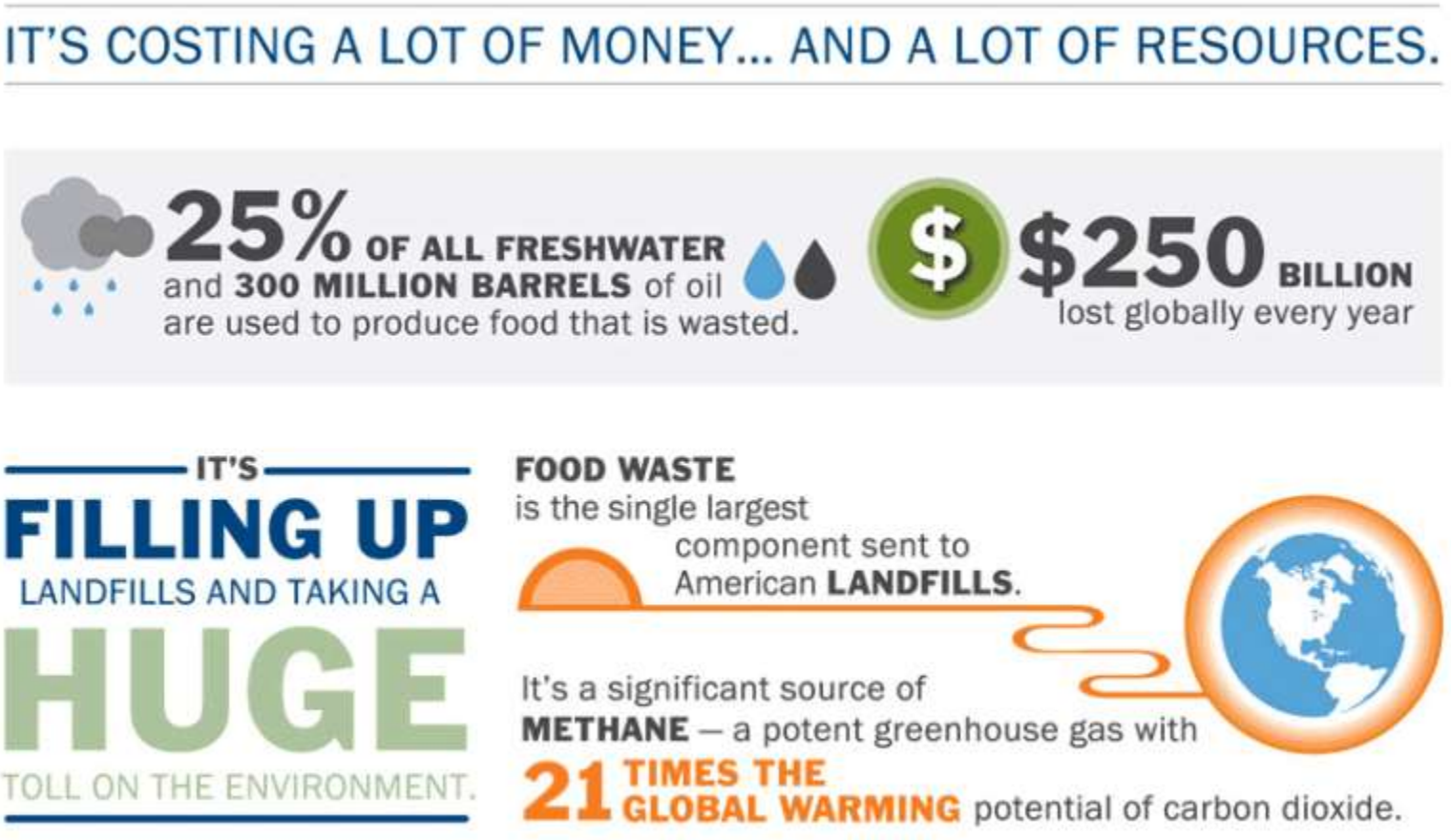


Every item we throw away includes a large amount of invisible embedded energy and other resources

Downstream Impact – Food Waste

- The decomposition of food and other organic matter in landfills produces methane, a green-house gas 20+ times more potent than Carbon Dioxide.
- Landfills are the largest human-related source of methane in the US, accounting for over 20% of all methane emissions.

The Impact

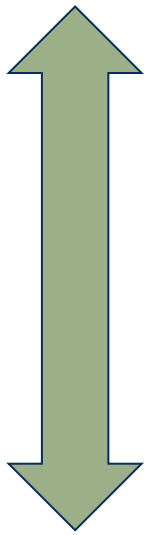

IT'S COSTING A LOT OF MONEY... AND A LOT OF RESOURCES.
25% OF ALL FRESHWATER and 300 MILLION BARRELS of oil are used to produce food that is wasted.
$250 BILLION lost globally every year
IT'S FILLING UP LANDFILLS AND TAKING A HUGE TOLL ON THE ENVIRONMENT.
FOOD WASTE is the single largest component sent to American LANDFILLS.
It's a significant source of METHANE — a potent greenhouse gas with 21 TIMES THE GLOBAL WARMING potential of carbon dioxide.

Food Waste Management Ideas

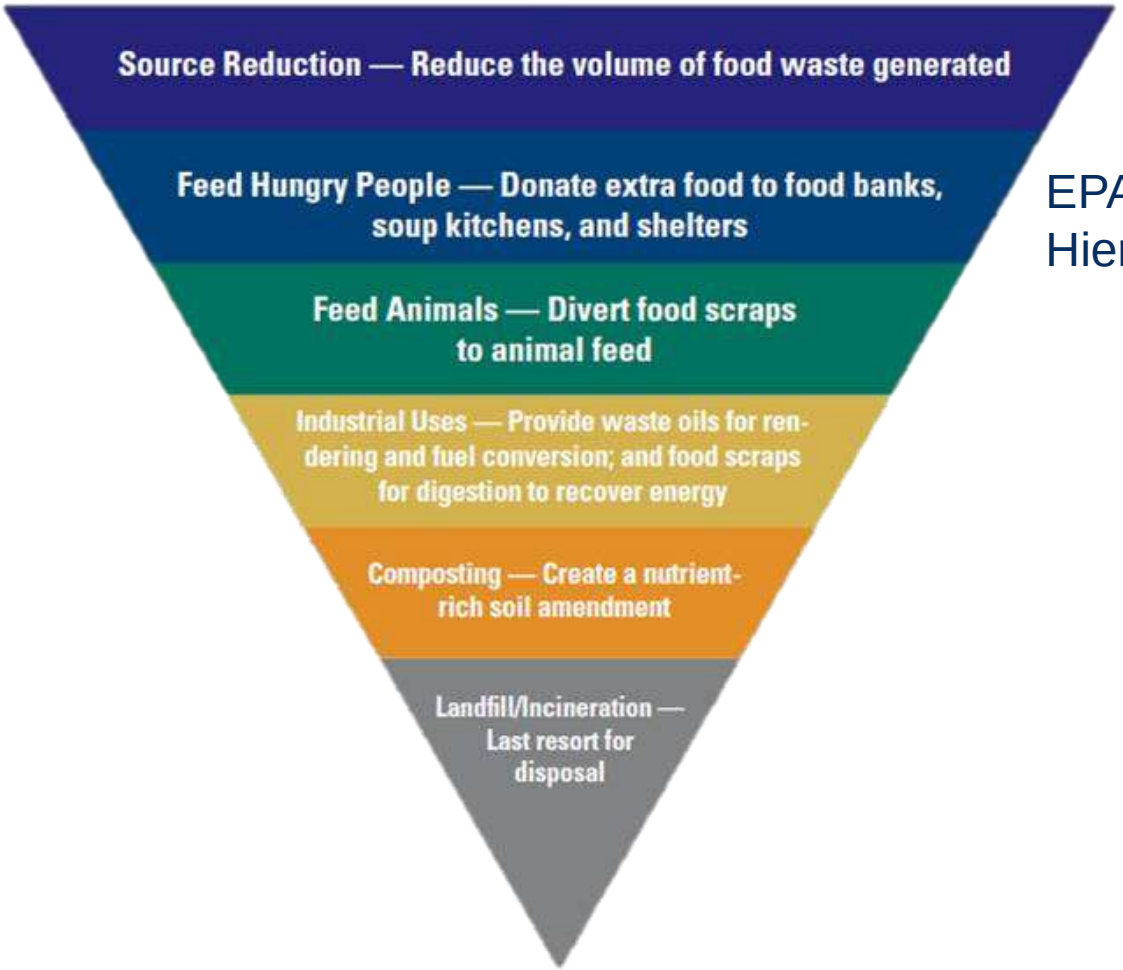
Portion Control	Trayless	Food Donation
Food Waste to Agriculture	Energy Production	Composting
Pulping	Dehydrating	Aerobic Digestion
Food Waste Tracking	Guest Awareness Programs	Garbage Disposers

Focus on Prevention First

Preferred



Not Preferred



EPA Food Waste Hierarchy

Triple Bottom Line Effect

The Positive Impact of Food Waste *Prevention*

1. FINANCIAL

Enables you to cut down food costs, reduce disposal costs and save on labor.

2. ENVIRONMENTAL

Helps you run a greener operation by reducing greenhouse gas emissions.

3. SOCIAL

Creates a positive team culture with open communication, awareness and empowerment.

Takeaway

Prevention should overshadow everything else [including many other worthy things] you do…

Question:

HOW DO WE PREVENT WASTE?

Where to Start?

Xi Jinping
President
People's Republic of China

Xi read an article titled "Netizens Call Upon Restaurants to Restrict [Food] Waste." The central office of the Central Committee Of the Communist Party Of China released an announcement to officials on Jan 20, which carried a comment from Xi: **"These habits of waste must be stopped immediately!"**

Culture Reset:
Go Positive; Embrace Data

Anti-Waste Culture

- Open, transparent and positive
- Data-driven
- Engaged and inclusive
- Goal-focused

Sorry, no box to check and forget

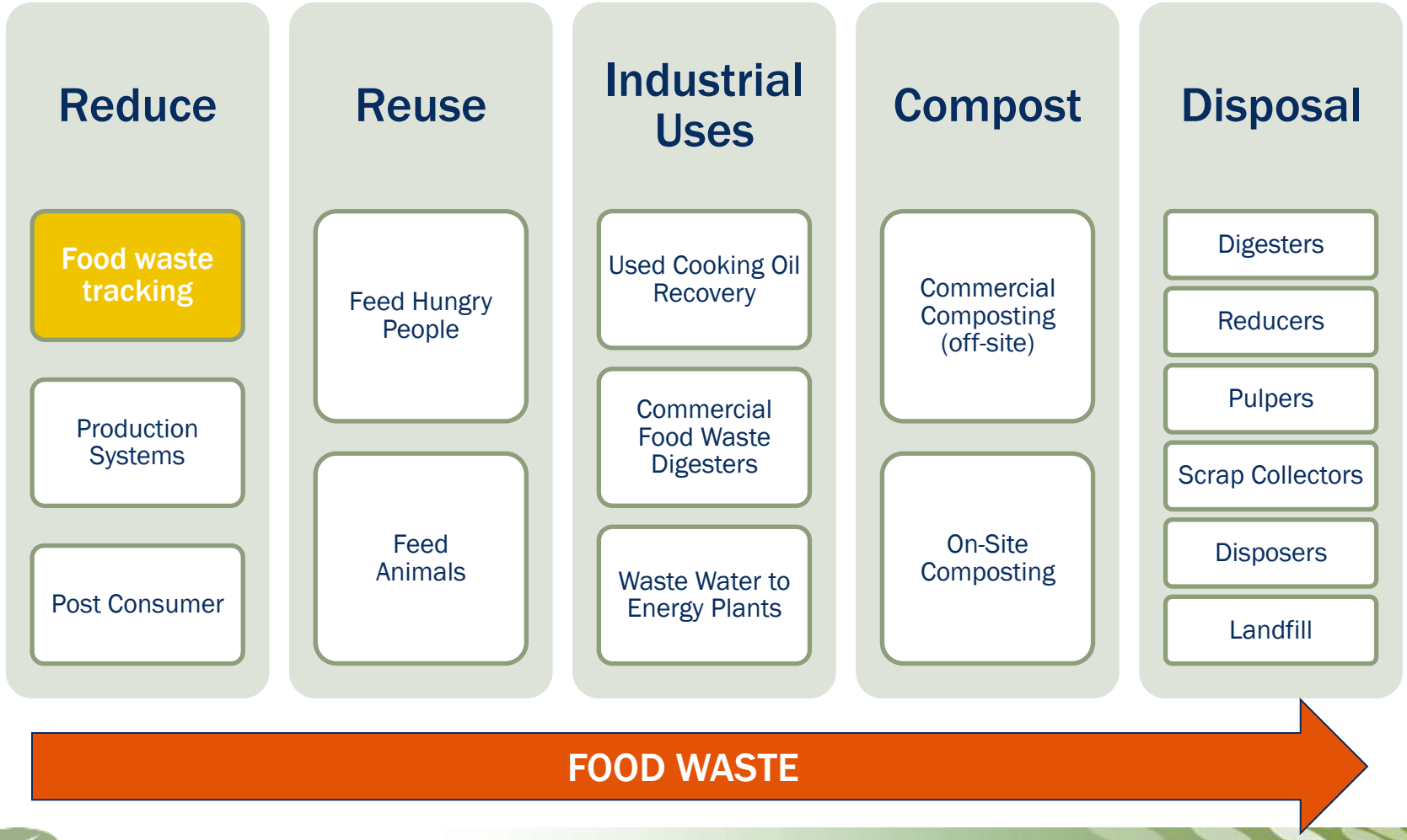
Food waste is a challenge which **requires ongoing vigilance**, just like quality, safety and sanitation. It is a matter of **regular practice**, not a problem to fix once and forget.

We need to **focus our culture** on food waste…**daily.**

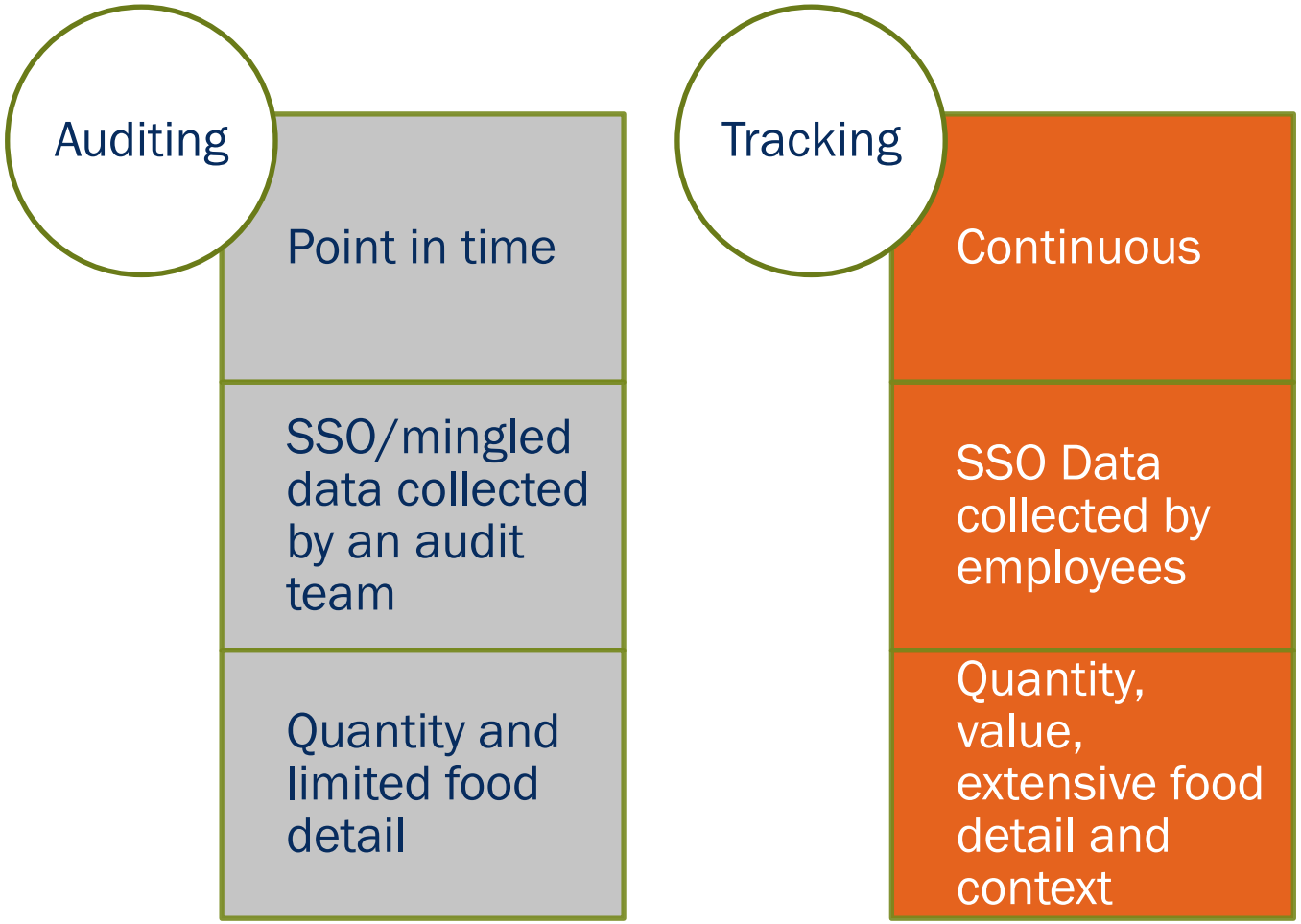
But how?

BEST MANAGEMENT PRACTICES

Best Management Practices

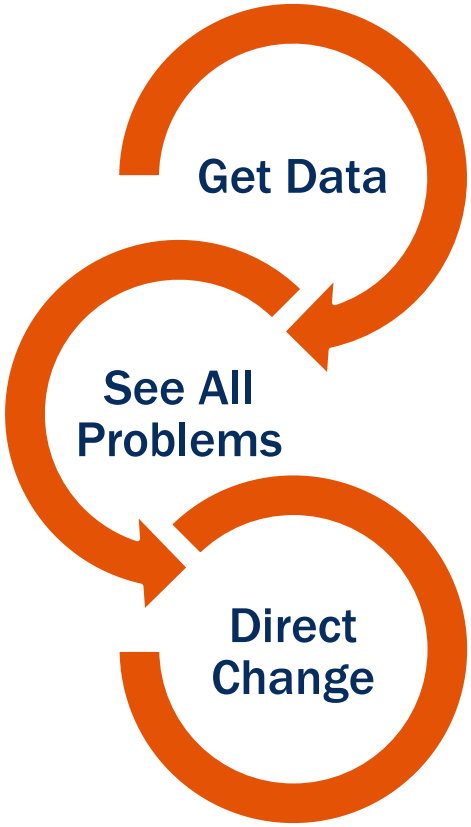


Audit ≠ Tracking



Breaking Down the Tracking Theory

We once thought the process would be as easy as 1, 2, 3:



Breaking Down the Tracking Theory

But that wasn't accurate…

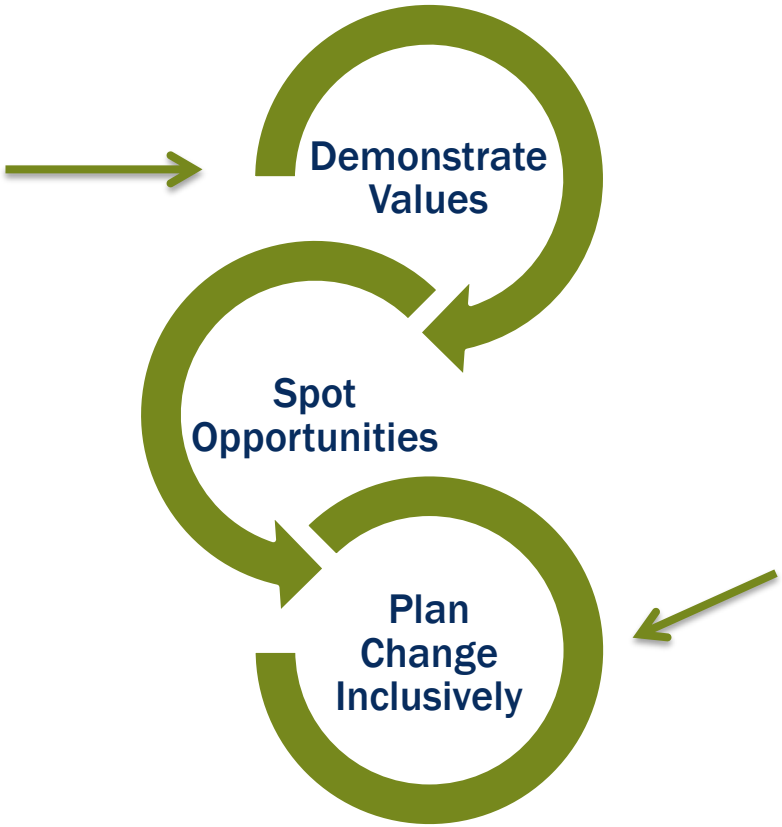
Myth: The data collection process is just about collecting information for use by managers…

Myth: Once you know where there are problems, it's easy to direct changes.

Breaking Down the Tracking Theory

The proven tracking process…

Reality: The data collection process is about sending a message to the front line team about values and priorities…



Reality: The hard part about change isn't finding the right answer, it's shaping the behavior to persist change

Daily Waste Tracking

Tracking enables operators to:

- Set baselines → Measure progress
- Obtain data → Diagnose problems
- Raise awareness → Team/Customer
- Set a positive tone
- Set SMART goals

What “Waste” to Track?

- Overproduction
- Spoilage
- Expired/Dated
- Trim Waste
- Contaminated
- Burned/Dropped

Material Flow

Kitchen →

- Hot production
- Cold production
- Other areas

Tracking Station

↓

Pot Wash Area

↓

Garbage
Waste Disposer
Donation
Compost

← **Servery**

- Hot line
- Salad bar
- Other cafes and kiosks

Evolution of Tracking

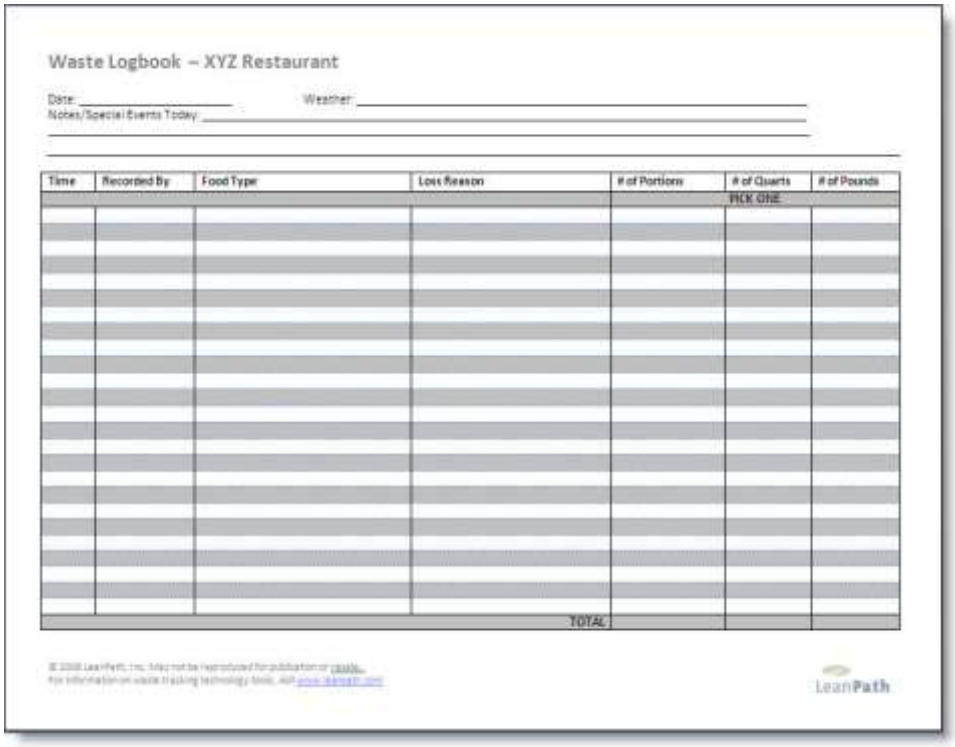
Future: Cloud-Based Automation

Advanced: Local Automation Tools

Basic: Manual Paper/ Excel

Manual Data Collection

- Paper Log Books & PC Data Entry
- Data collected by weight, volume, count or visual estimate
- Handwritten
- Manual analysis from paper or via PC data entry (e.g. MS Excel)



Waste Logbook – XYZ Restaurant

Date: _____ Weather: _____

Notes/Special Events Today: _____

Time	Recorded By	Food Type	Loss Reason	# of Portions	# of Quarts	# of Pounds
					PICK ONE	
			TOTAL			

LeanPath

Manual Data Collection

Pros

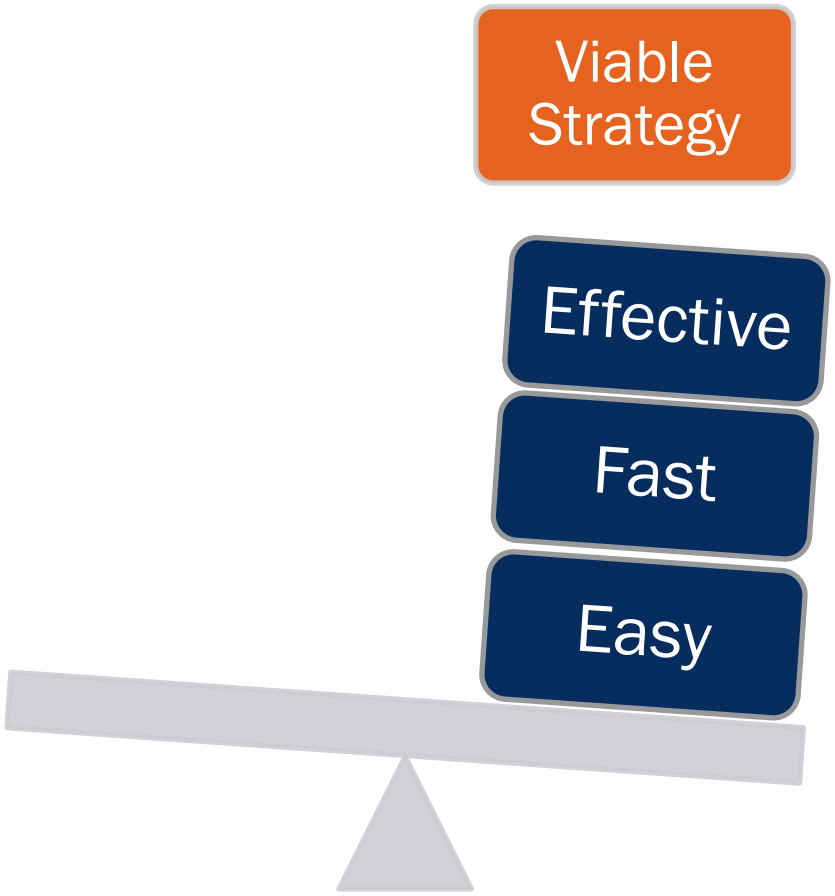
- Low cost of entry; leverages existing PC's and MS Office software
- Free resources available from EPA and others
- Fast to start

~4x Greater Waste Reduction with Automated Methods

Cons

- High cost long-term
  - Ongoing labor costs
- Difficult for staff and managers
  - Slow data recording process for staff
  - Managers must enter data manually
  - Challenging for low-literacy workers
  - Difficult to sustain
- Low data quality
  - Slow access to data due to lag time
  - Disorganized data
  - Lost information; sanitation issues
  - "Guestimated" measurements
- Low Impact
  - No feedback to staff
  - Lack of actionable detail
  - Lost food cost savings

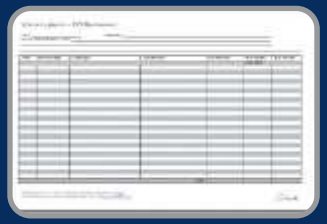
Tipping Point



Evolution of Tracking

Future: Cloud-Based Automation

Advanced: Local Automation Tools



Basic: Manual Paper/ Excel

Local Automation Systems

Evolution of Tracking

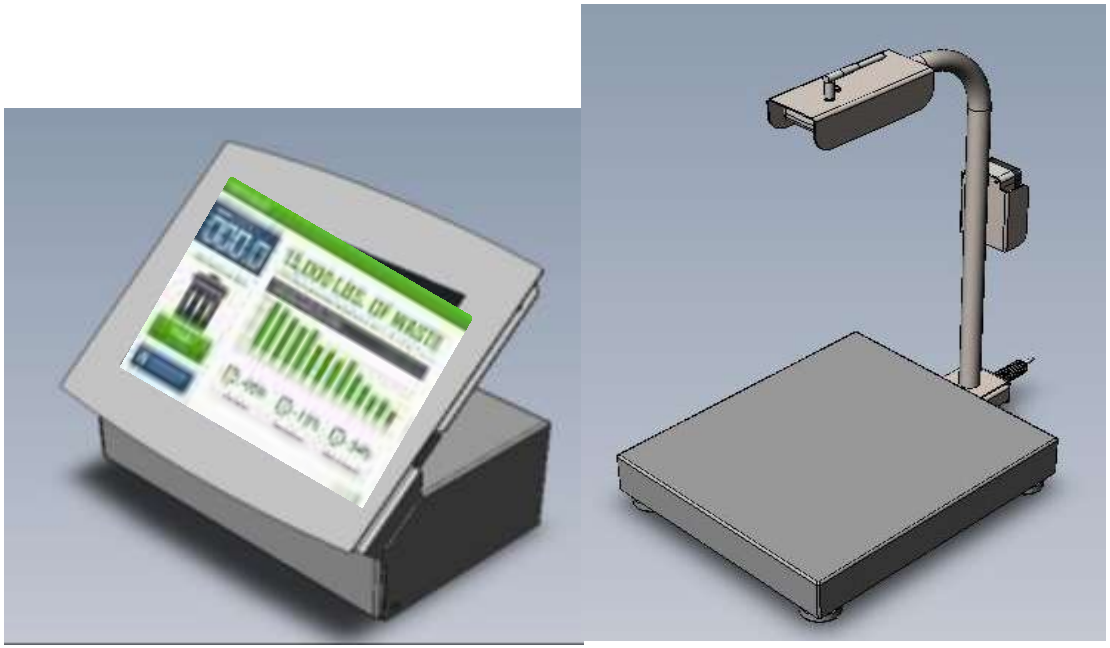
Future: Cloud-Based Automation

Advanced: Local Automation Tools

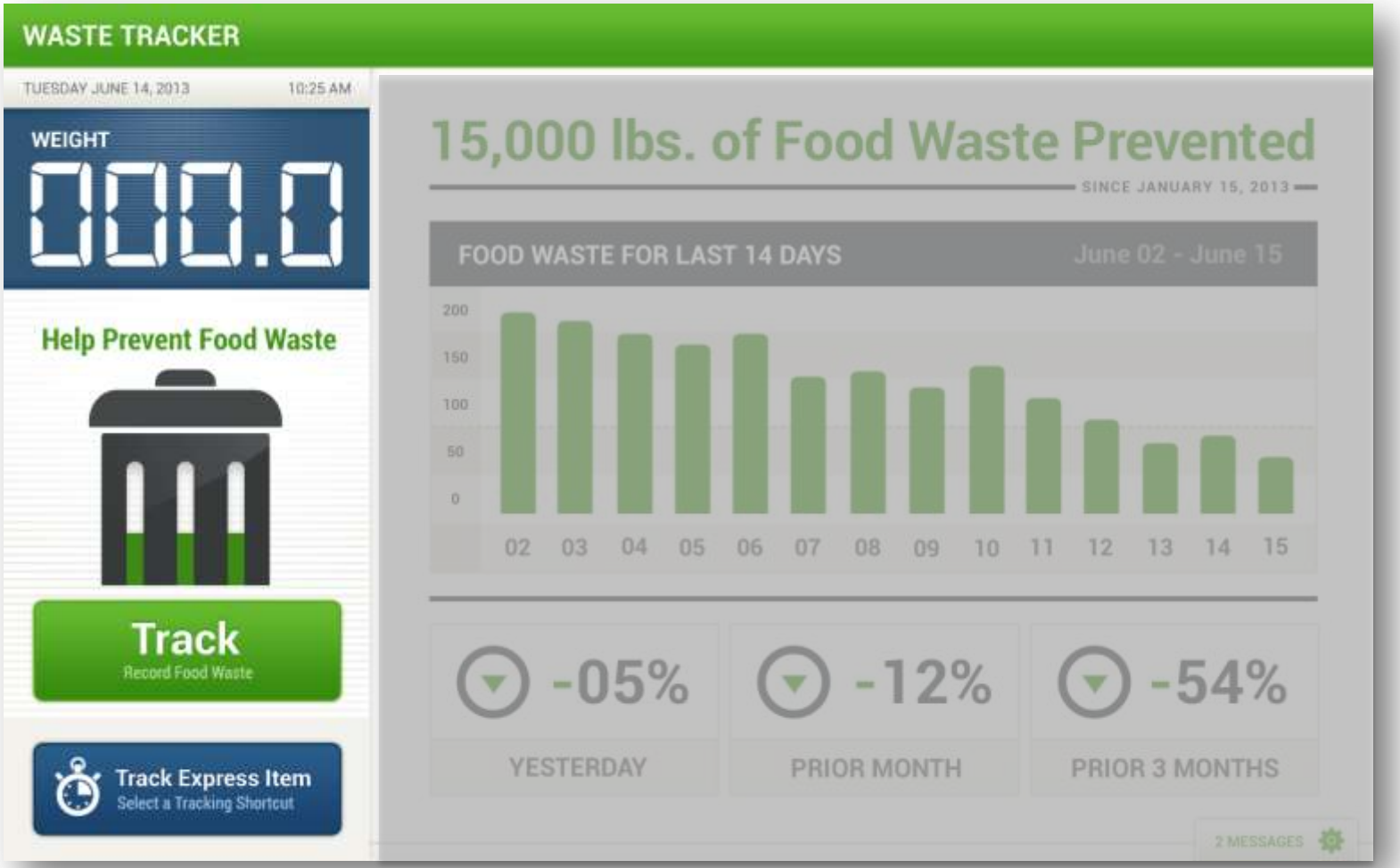
Basic: Manual Paper/ Excel

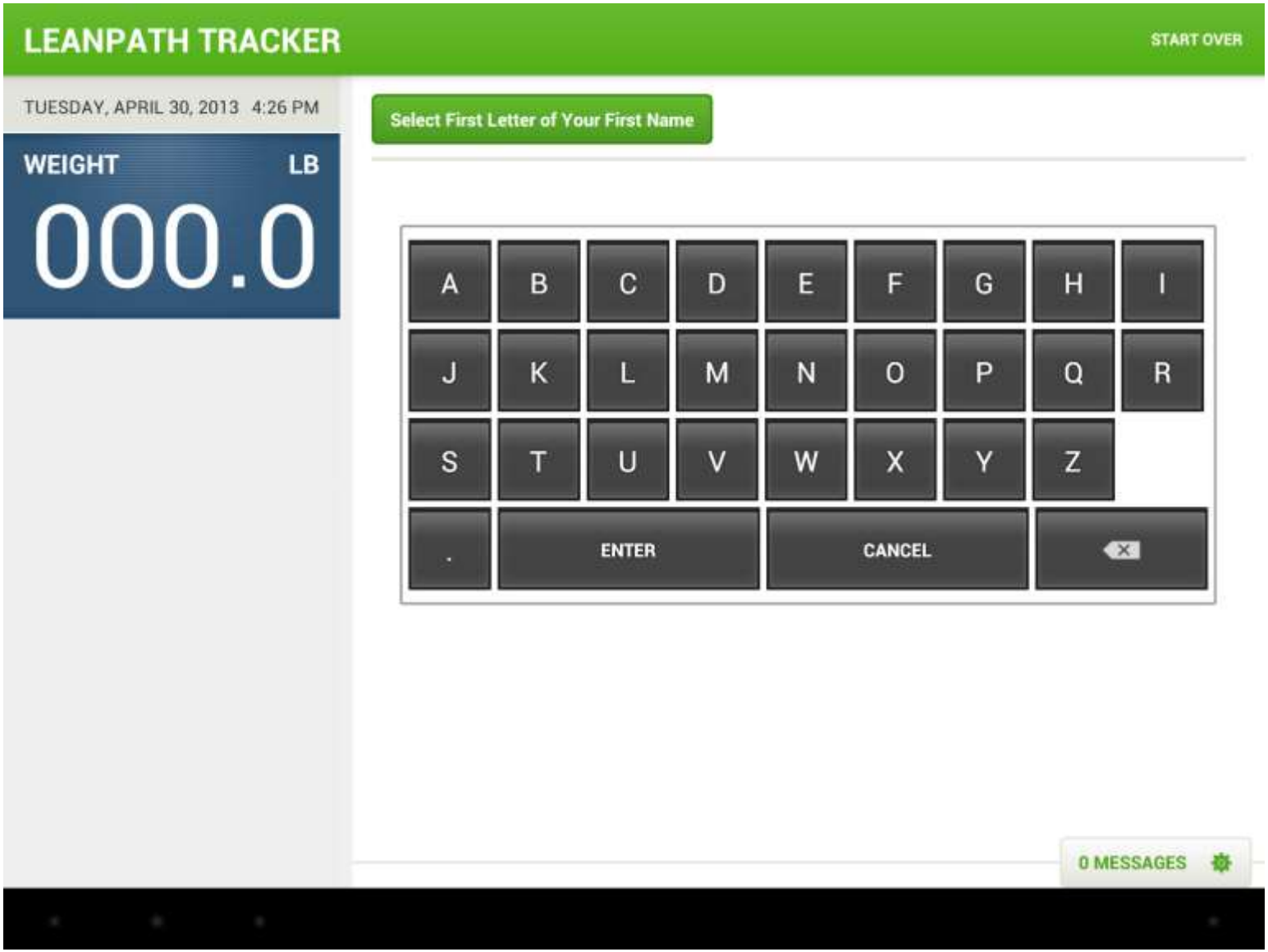
Cloud Tracking Example

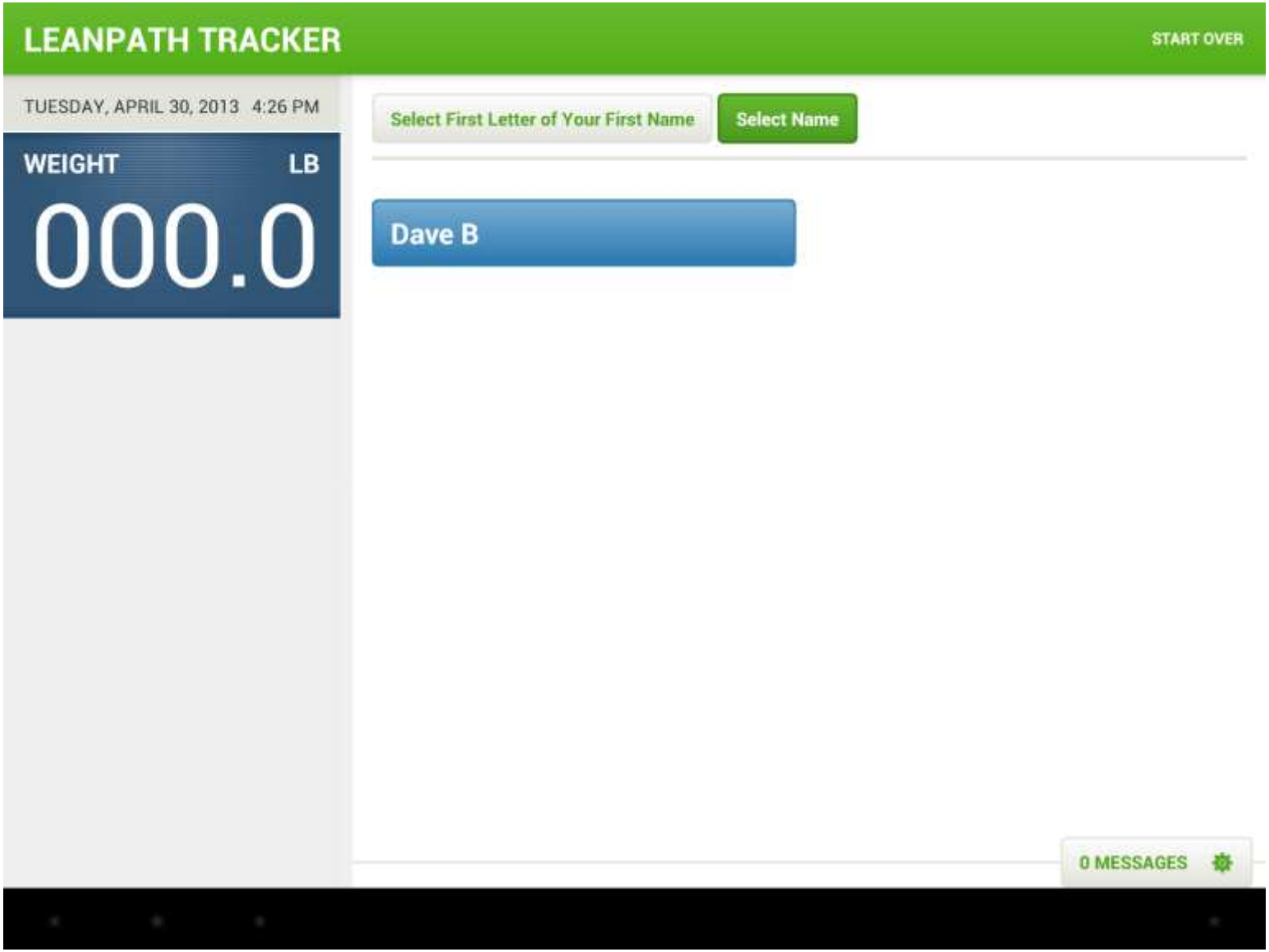
Example: LeanPath Tracker Integrated Data Collection Terminal

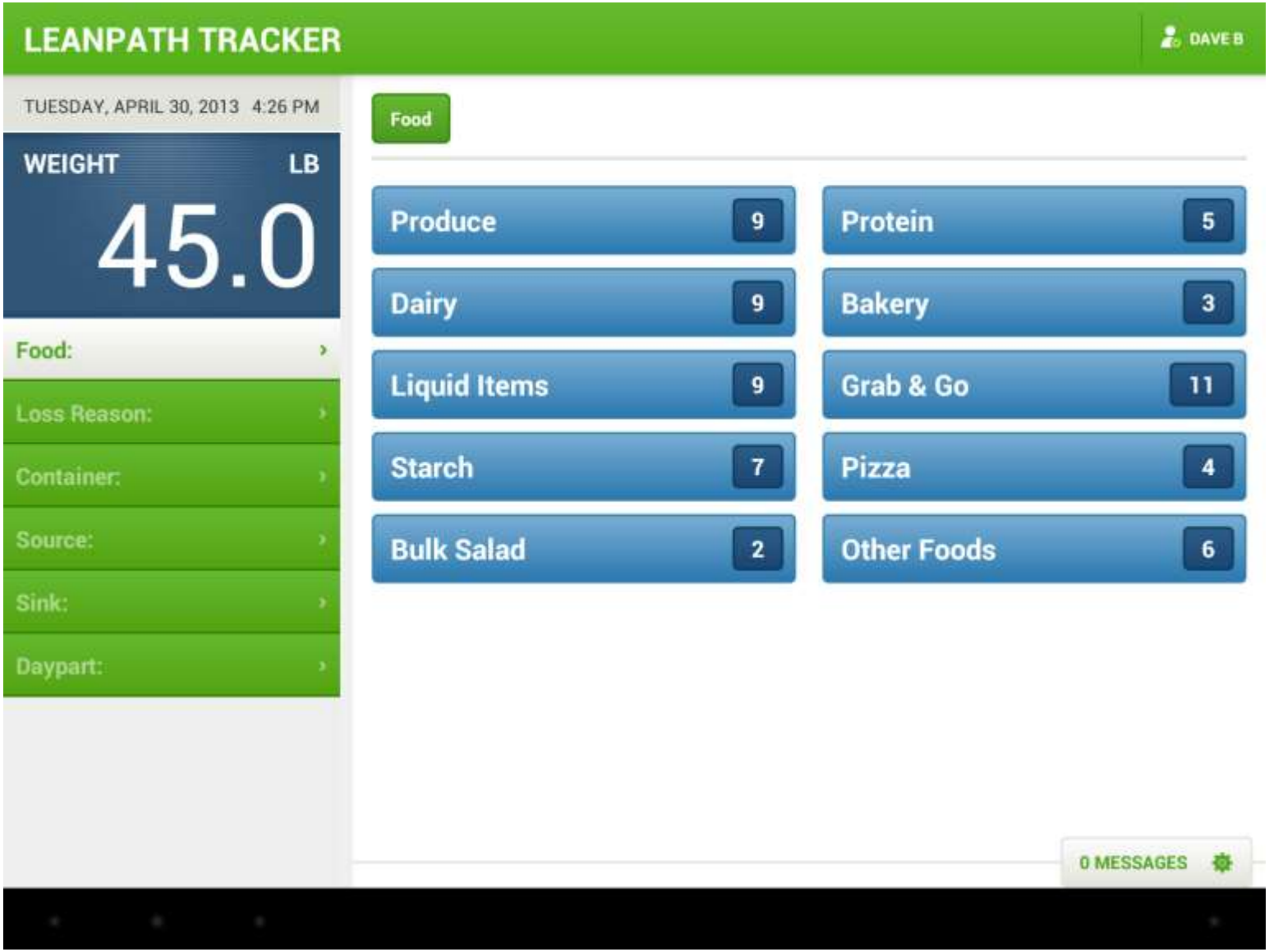


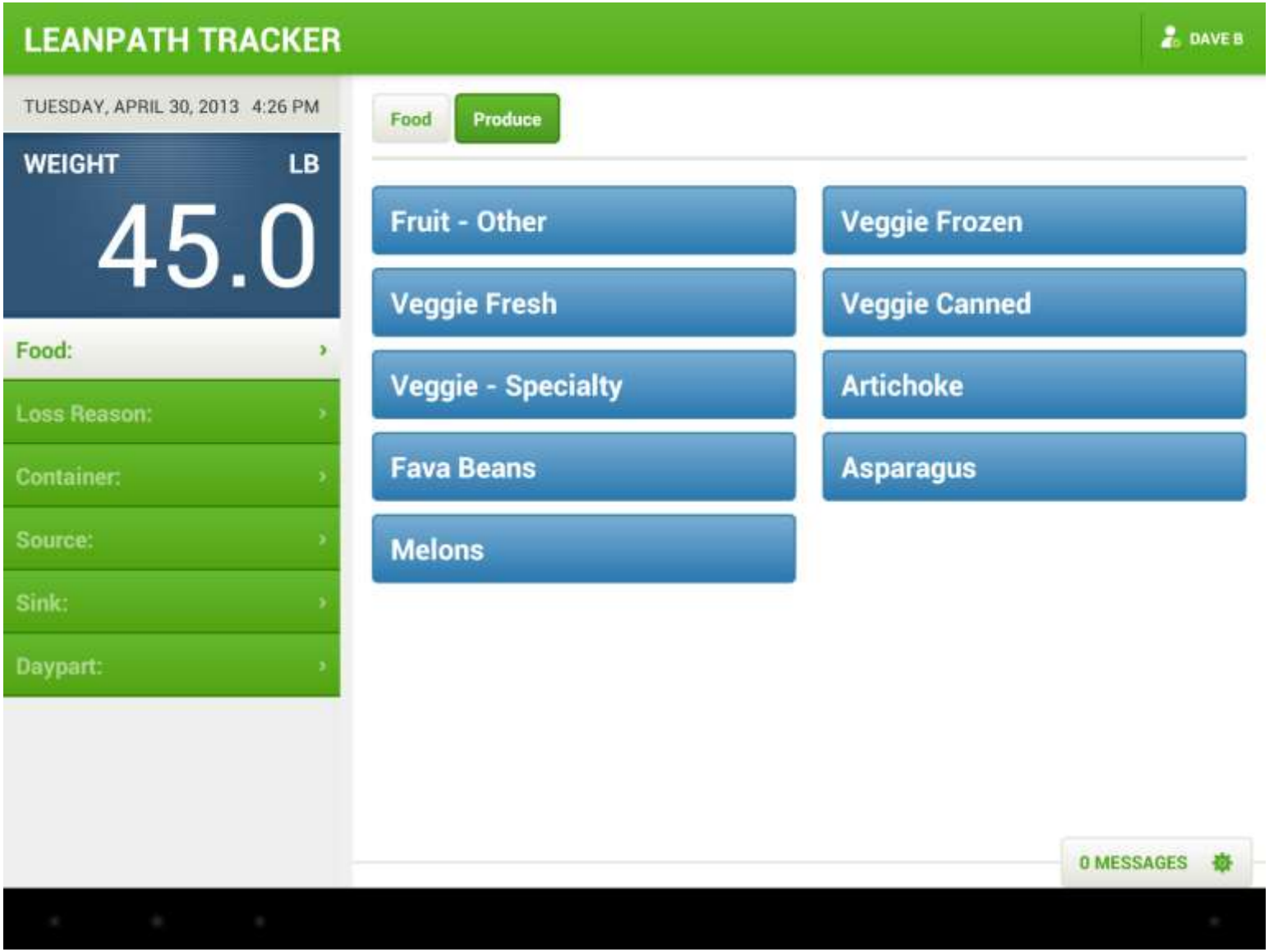
Example Tracker Device

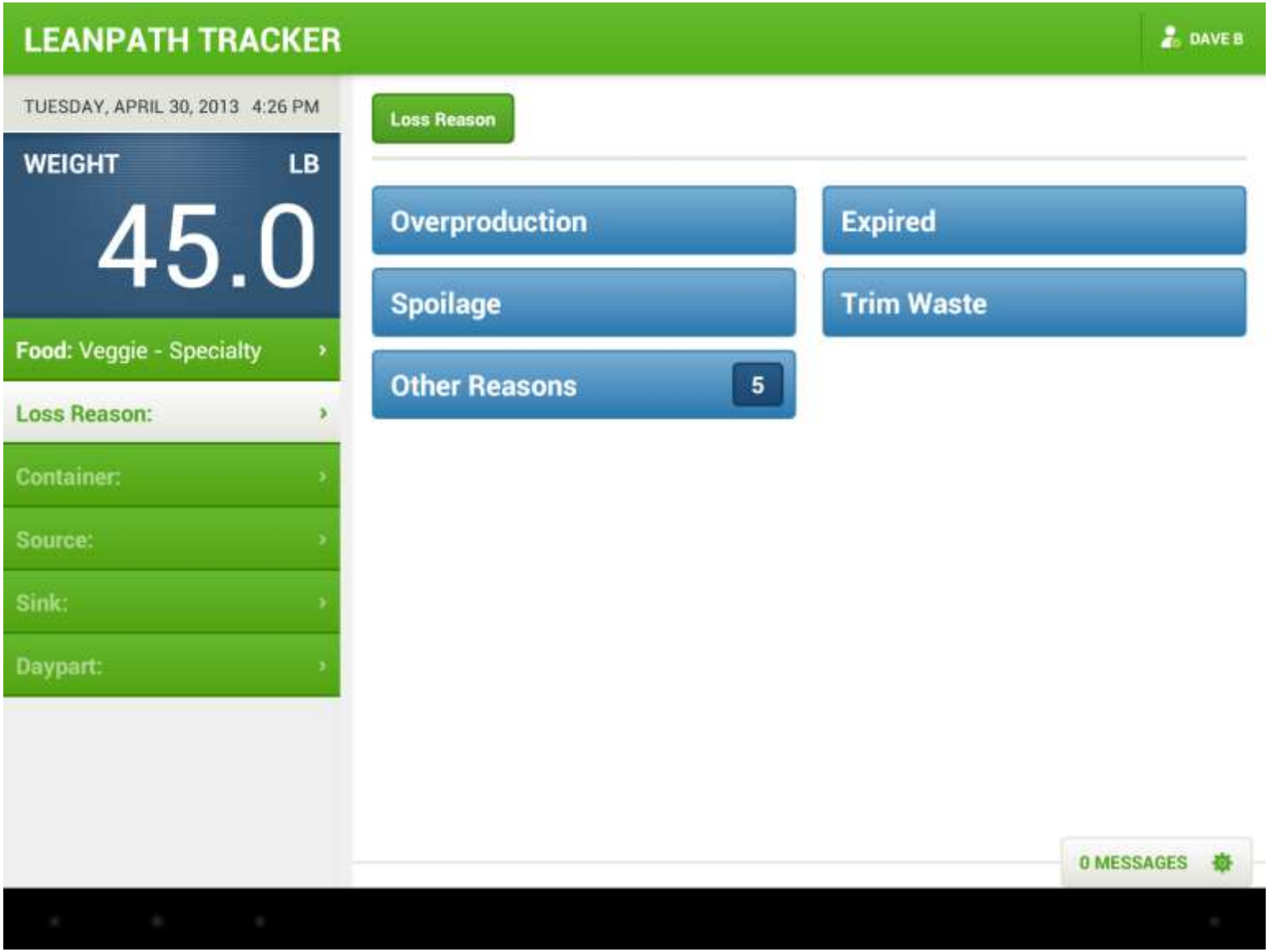


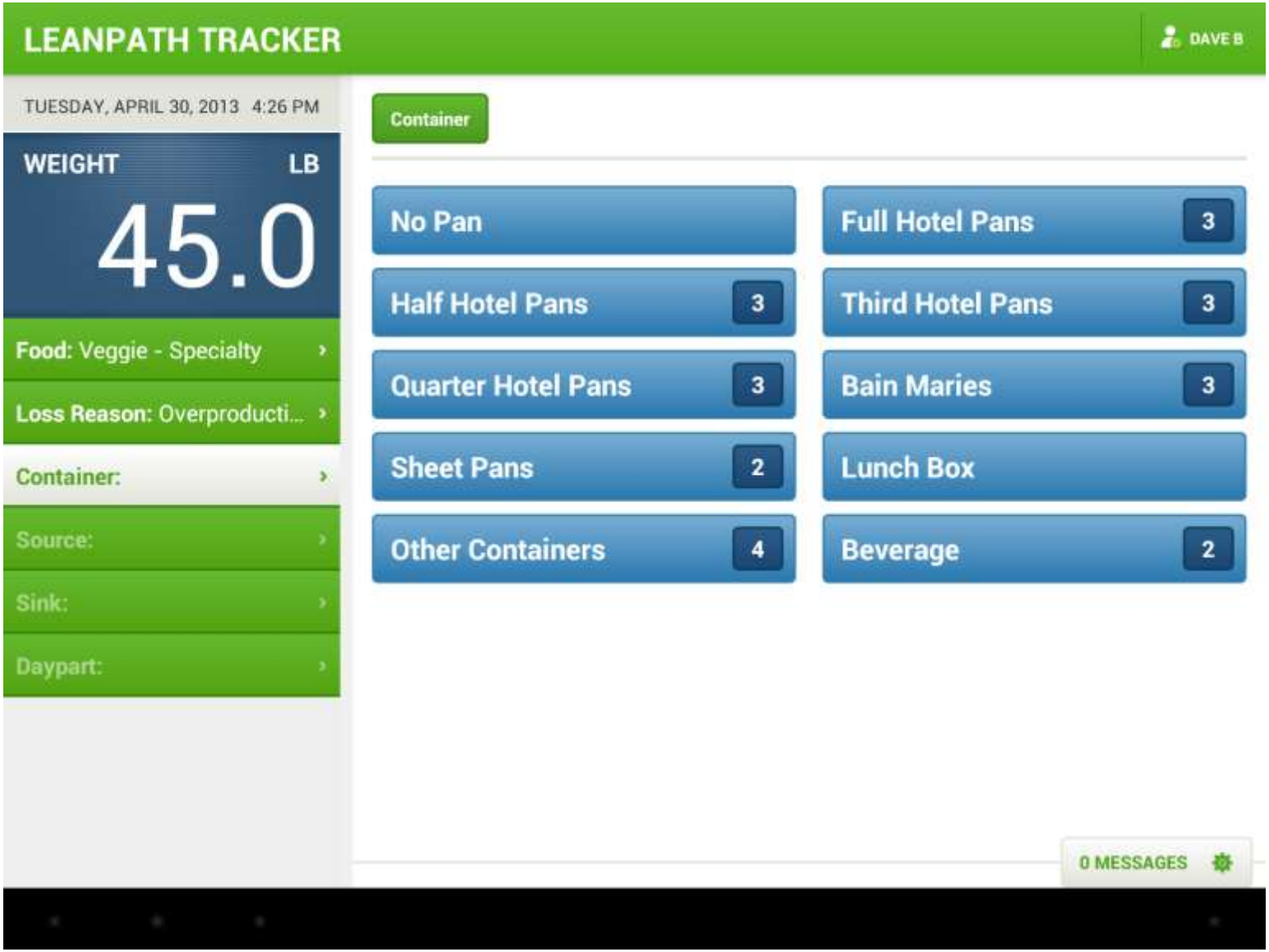

LEANPATH TRACKER
START OVER
TUESDAY, APRIL 30, 2013 4:26 PM
WEIGHT
LB
000.0
Select First Letter of Your First Name
A B C D E F G H I
J K L M N O P Q R
S T U V W X Y Z
. ENTER CANCEL
0 MESSAGES

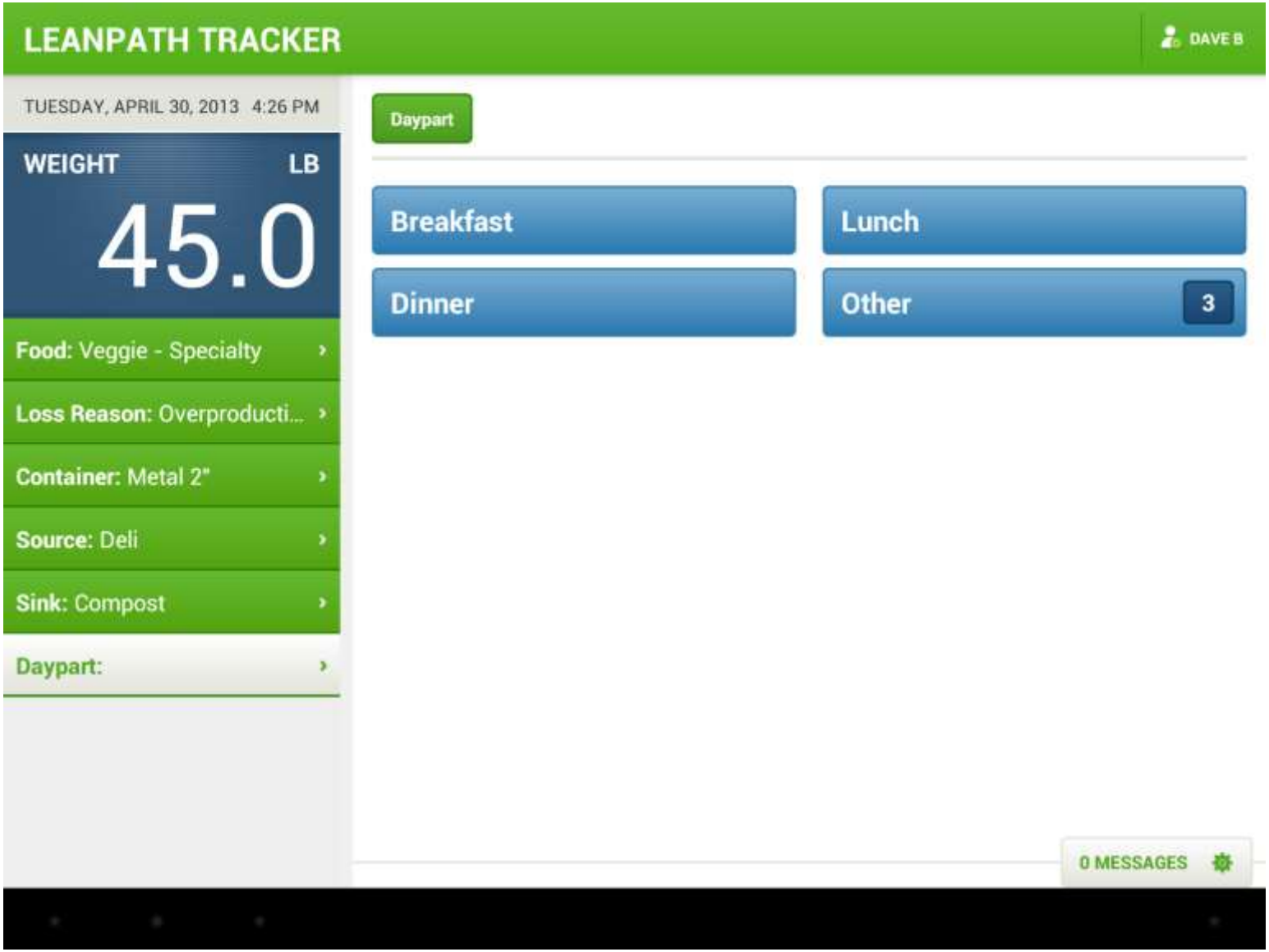

LEANPATH TRACKER
START OVER
TUESDAY, APRIL 30, 2013 4:26 PM
WEIGHT
LB
000.0
Select First Letter of Your First Name
Select Name
Dave B
0 MESSAGES

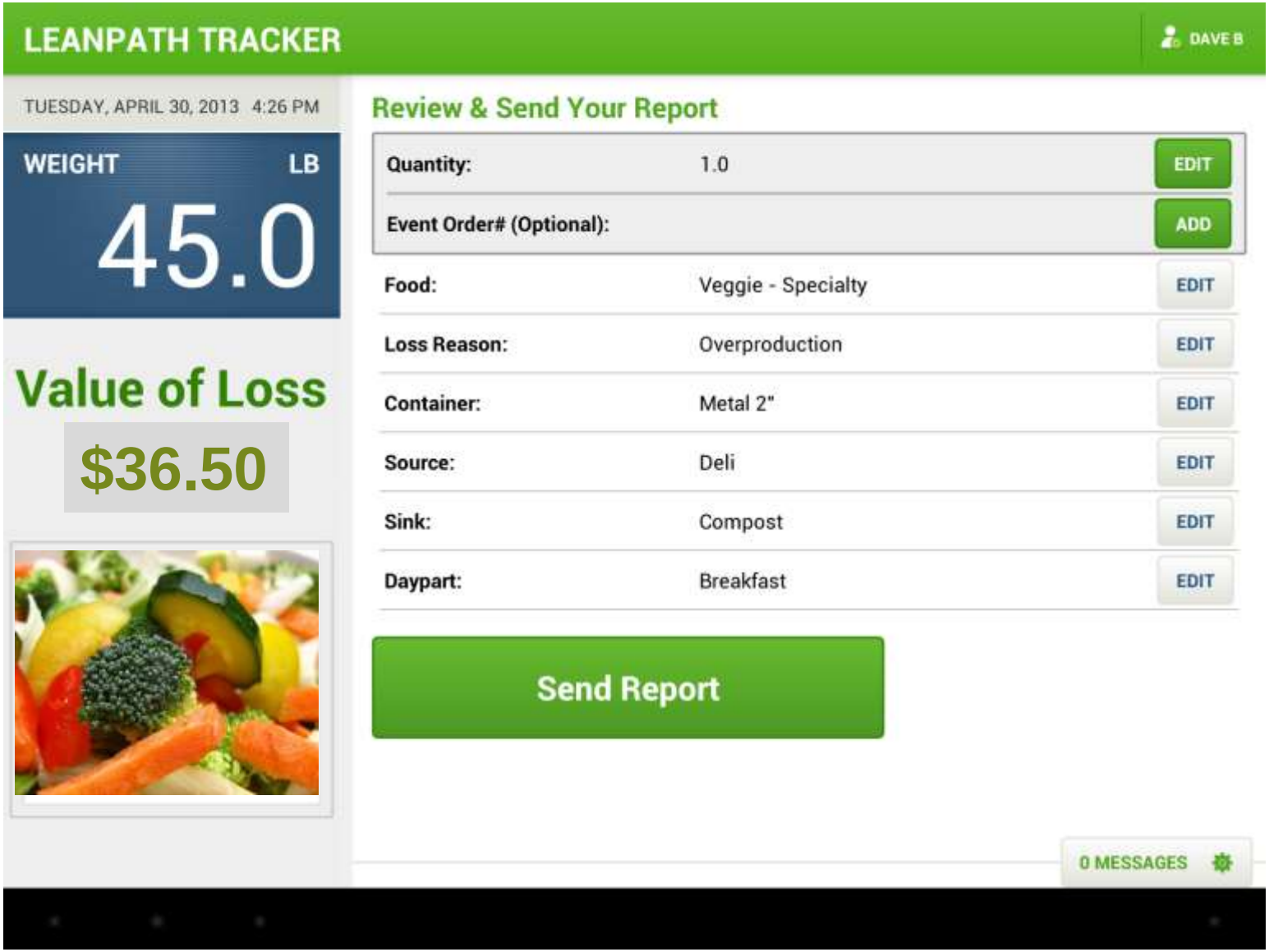

LEANPATH TRACKER
DAVE B
TUESDAY, APRIL 30, 2013 4:26 PM
WEIGHT LB
45.0
Food:
Loss Reason:
Container:
Source:
Sink:
Daypart:
Food
Produce 9
Protein 5
Dairy 9
Bakery 3
Liquid Items 9
Grab & Go 11
Starch 7
Pizza 4
Bulk Salad 2
Other Foods 6
0 MESSAGES


LEANPATH TRACKER
DAVE B
TUESDAY, APRIL 30, 2013 4:26 PM
WEIGHT
LB
45.0
Food:
Loss Reason:
Container:
Source:
Sink:
Daypart:
Food
Produce
Fruit - Other
Veggie Frozen
Veggie Fresh
Veggie Canned
Veggie - Specialty
Artichoke
Fava Beans
Asparagus
Melons
0 MESSAGES


LEANPATH TRACKER
DAVE B
TUESDAY, APRIL 30, 2013 4:26 PM
WEIGHT LB
45.0
Food: Veggie - Specialty
Loss Reason:
Container:
Source:
Sink:
Daypart:
Loss Reason
Overproduction
Expired
Spoilage
Trim Waste
Other Reasons 5
0 MESSAGES


LEANPATH TRACKER
DAVE B
TUESDAY, APRIL 30, 2013 4:26 PM
WEIGHT LB
45.0
Food: Veggie - Specialty
Loss Reason: Overproducti...
Container:
Source:
Sink:
Daypart:
Container
No Pan
Full Hotel Pans 3
Half Hotel Pans 3
Third Hotel Pans 3
Quarter Hotel Pans 3
Bain Maries 3
Sheet Pans 2
Lunch Box
Other Containers 4
Beverage 2
0 MESSAGES


LEANPATH TRACKER
DAVE B
TUESDAY, APRIL 30, 2013 4:26 PM
WEIGHT LB
45.0
Food: Veggie - Specialty
Loss Reason: Overproducti...
Container: Metal 2"
Source: Deli
Sink: Compost
Daypart:
Daypart
Breakfast
Lunch
Dinner
Other 3
0 MESSAGES

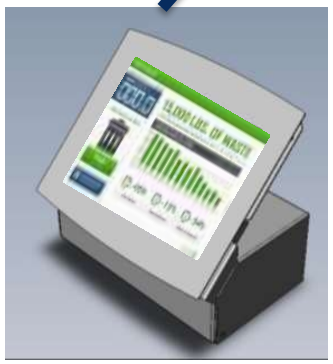

LEANPATH TRACKER
DAVE B
TUESDAY, APRIL 30, 2013 4:26 PM
WEIGHT LB
45.0
Value of Loss
$36.50
Review & Send Your Report
Quantity: 1.0 EDIT
Event Order# (Optional): ADD
Food: Veggie - Specialty EDIT
Loss Reason: Overproduction EDIT
Container: Metal 2" EDIT
Source: Deli EDIT
Sink: Compost EDIT
Daypart: Breakfast EDIT
Send Report
0 MESSAGES

Front-Line Feedback

Engagement


WASTE TRACKER
TUESDAY JUNE 14, 2013
10:25 AM
WEIGHT
000.0
Help Prevent Food Waste
Track
Record Food Waste
Track Express Item
Select a Tracking Shortcut
TOP WASTE WATCHERS
FOR LAST 14 DAYS
OPERATOR
Weighs
Pounds
Janice J. 45 115
Todd F. 32 96
Kristina Q. 24 66
Michael L 24 72
Alexander S 21 33
Lynn W. 20 45
Marco T. 19 27
Alexis C. 0 0
Thomas B. 0 0
Cyndy J. 0 0
RECOGNITION AWARDS
10 WINNERS
IN LAST 90 DAYS
THANK YOU FOR TRACKING!
2 MESSAGES

Data Moves to Cloud



Web-Based Reporting

Example Dashboard

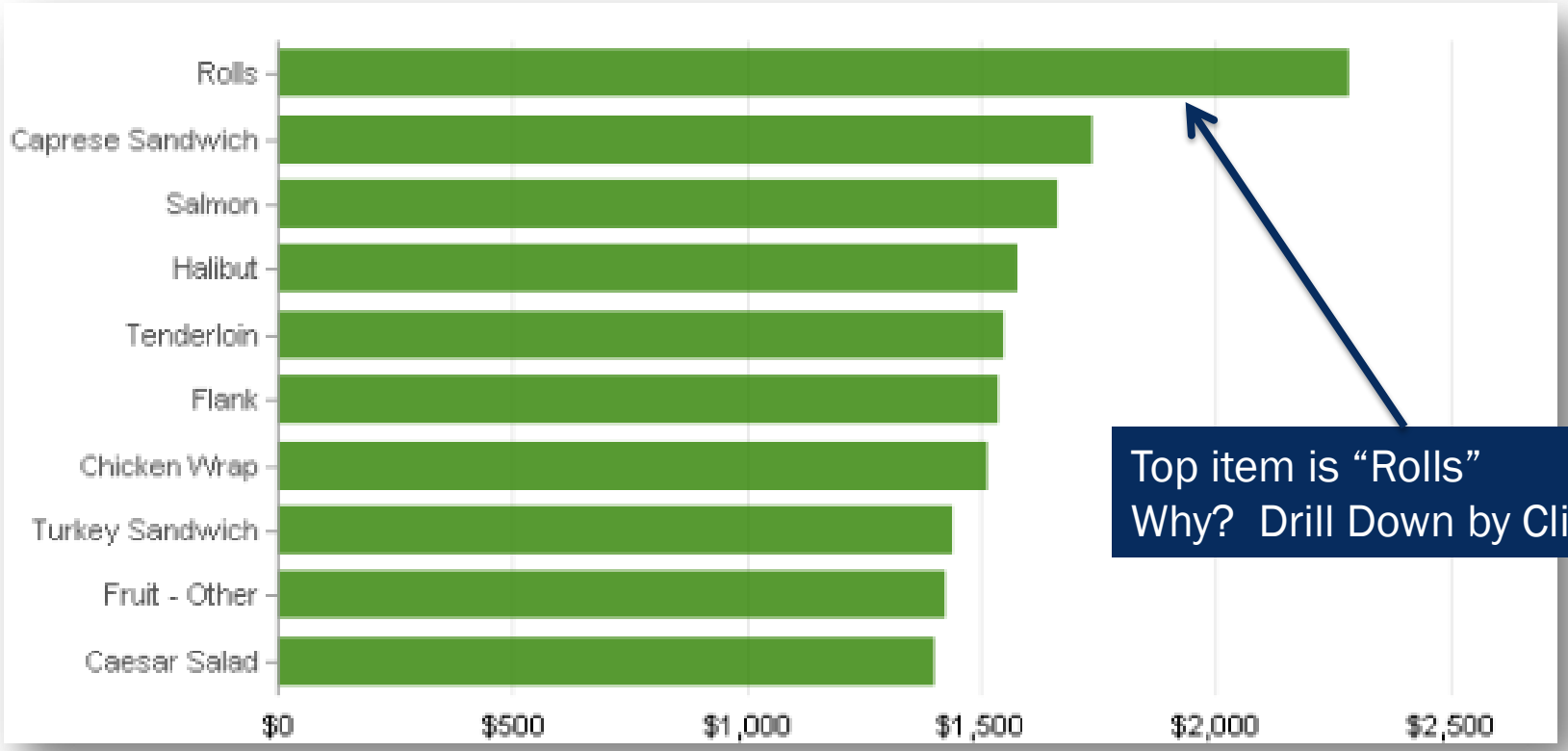
Top Waste Reasons

Top Sources of Waste by Platform

Employee Engagement

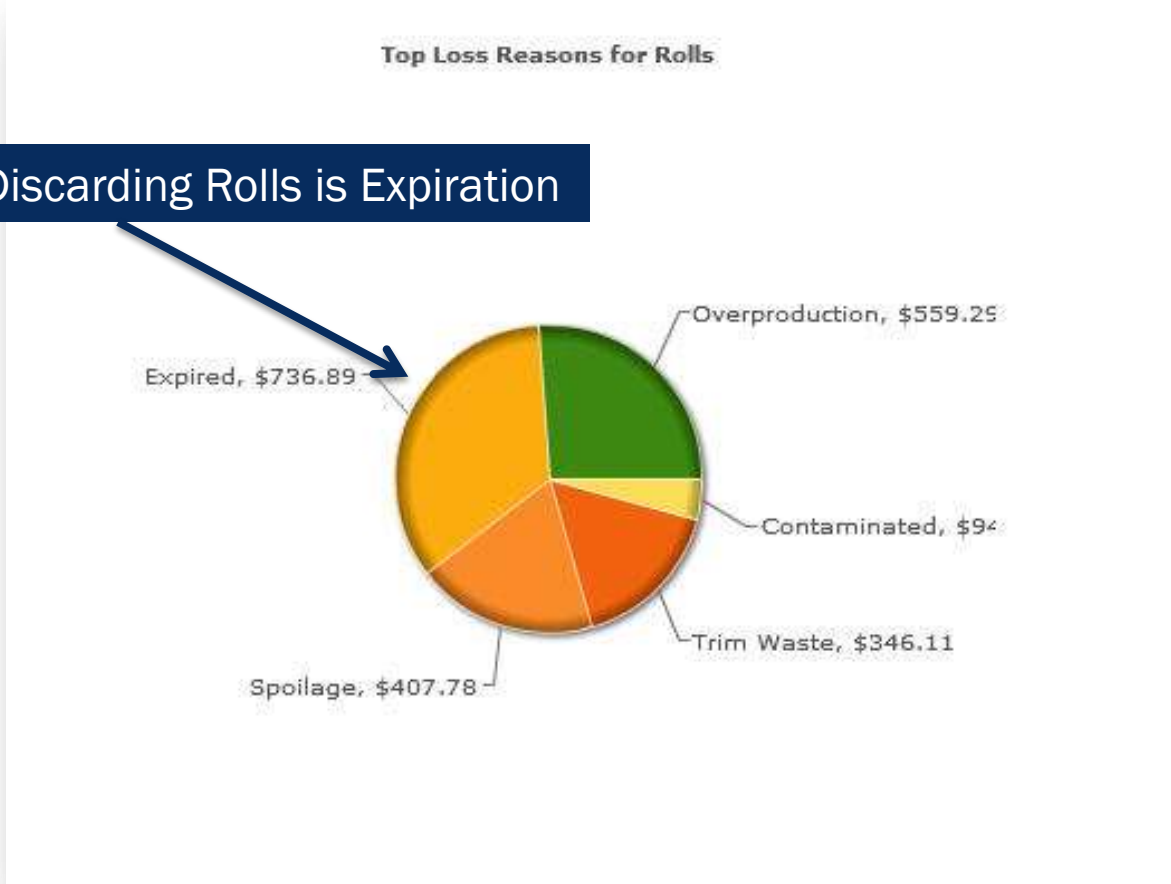
Most Wasted Foods

Example: Top Wasted Foods



Following the Data

Top Reason for Discarding Rolls is Expiration



See the Detail Under the Chart

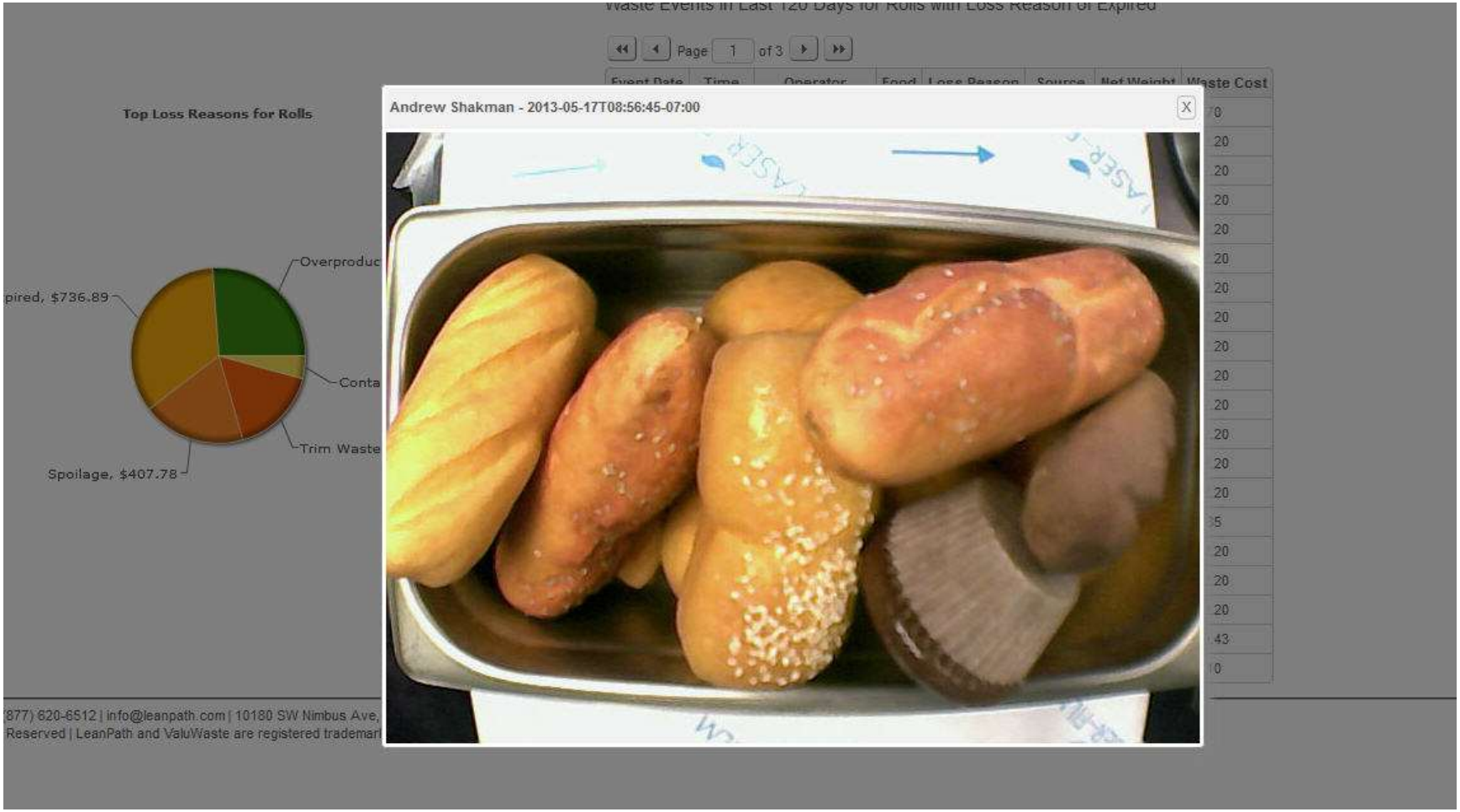
Drill-down the see underlying transactions to see what's driving high-waste, high-cost opportunities.

Click to see a photo

Page 1 of 3

Event Date	Time	Operator	Food	Loss Reason	Source	Net Weight	Waste Cost
5/17/2013	08:56:45	Andrew Shakman	Rolls	Expired	Unknown	2.00	$3.70
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	06:50:05	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	05:55:52	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	07:30:37	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	06:41:01	Andrew Shakman	Rolls	Expired	Unknown	1.00	$1.85
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/15/2013	04:58:25	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/14/2013	08:51:20	Andrew Shakman	Rolls	Expired	Unknown	12.00	$22.20
5/13/2013	03:54:54	Janet Haugan	Rolls	Expired	Unknown	10.50	$19.43
5/12/2013	05:28:55	Beth Clark	Rolls	Expired	Grill	3.80	$4.10

Photo of Each Waste Event



Zoom Out to See Trends

See Participation Levels

Environmental Impact To Date

Environmental Savings	Savings
Savings to Date - Tons	3.00
Savings to Date - CO2	2.20
Savings to Date - Gallons of Gas	228.40

EPA Guidance for Long-term Solution

Source: EPA Presentation on Food Waste

Food Waste Tracking Systems

- Many types of tracking systems exist
  - Vary in cost, complexity, and focus

	FREE	Available to Public	Easy to Identify Opportunities for Reduction	Long-term Tracking
Paper Tracking Logs	✓	✓		
Automated Tracking Systems (e.g. LeanPath ValuWaste)		✓	✓	✓
Proprietary Tracking Systems			✓	✓
EPA's Food & Packaging Tool	✓	✓	✓	

Study: Manual vs. Automation Waste Reduction Results

LeanPath analyzed a number of organizations with comparable operations and annual food costs that first used manual processes and then switched to automated.

Study: Manual vs. Automation Waste Reduction Results

The initial manual tracking efforts helped these sites reduce waste 3.4 "Bins" out of 21 (**versus industry benchmarks). This is a 16.4% reduction of pre-consumer food waste.**

Study: Manual vs. Automation Waste Reduction Results

After deploying Automated Tracking, these sites reduced an additional 10.3 "Bins" out of 21 (or 49% of their total waste).

Study: Manual vs. Automation Waste Reduction Results

Manual Tracking Left 75% of the Proven Reduction Opportunity Untouched.

25% of Opportunity Reached via Manual

Continual Process Improvement

Information

Review Data
Set Goals
Identify
Improvements

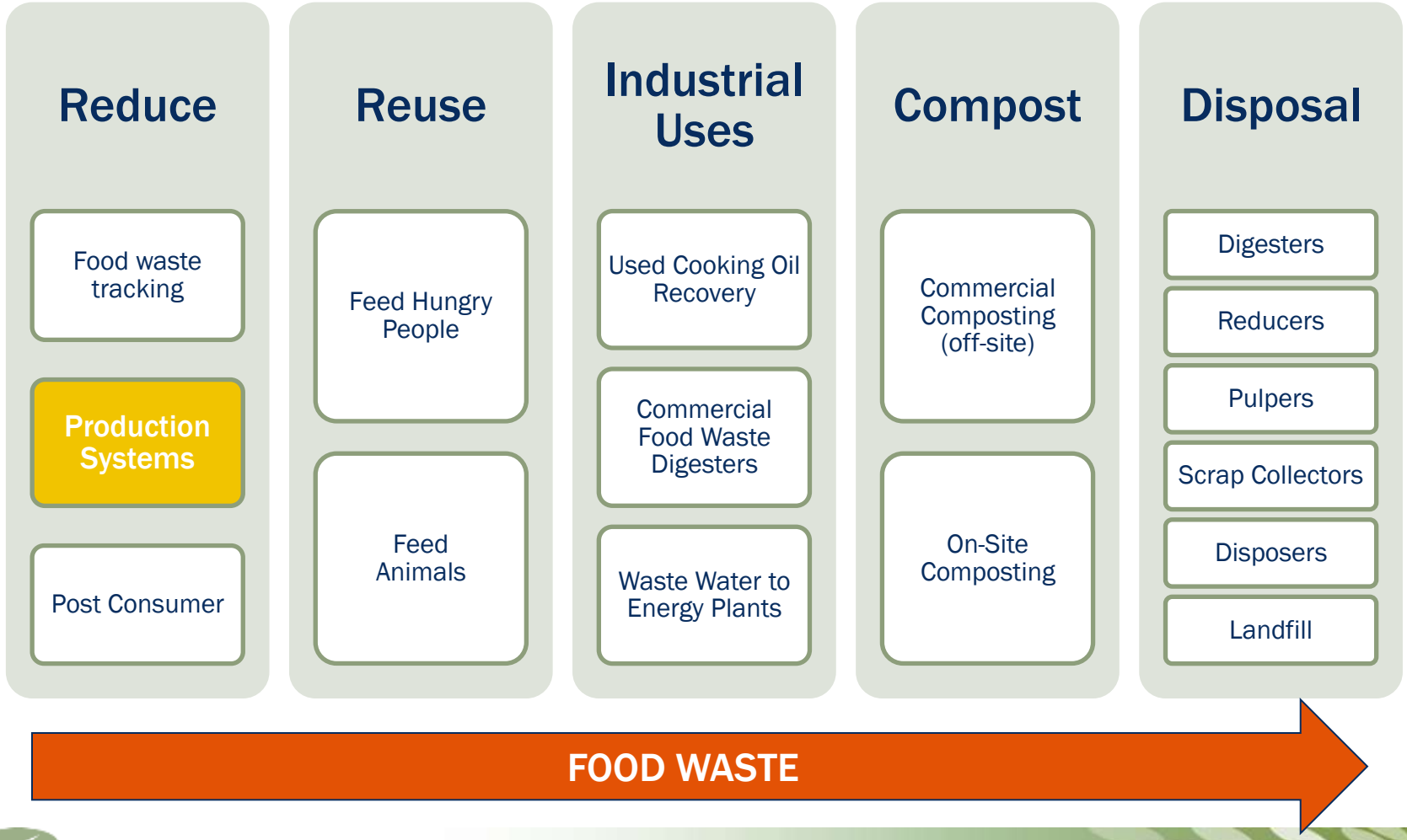
Action

Changes to:
Production
Purchasing
Menus
Behavior

Outcome

Waste Reduction

Best Management Practices



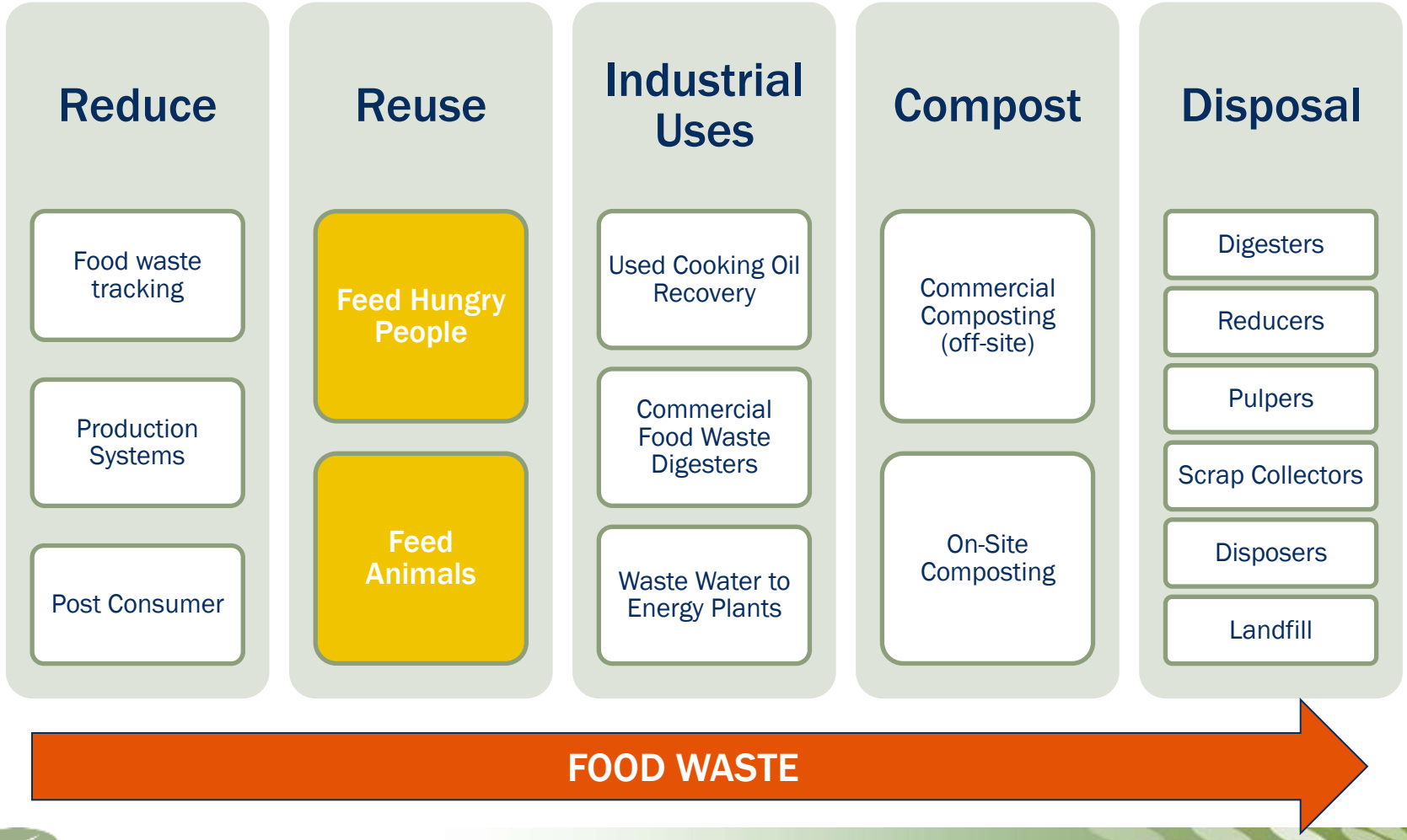
Production Software Systems

- Important to forecasting, purchasing, inventory management, recipes, menus and production.
- Focused on building the right plan
- Excellent complement to food waste tracking.

Post-Consumer Waste Prevention

- Test smaller portions
  - Delivers on healthy/wellness value proposition
  - Higher margin
  - Flavor over amount
- Avoid self-service
- Cook-to-Order; 1-piece production
- Study plate returns; change menus
- Weekly huddle with service staff

Best Management Practices



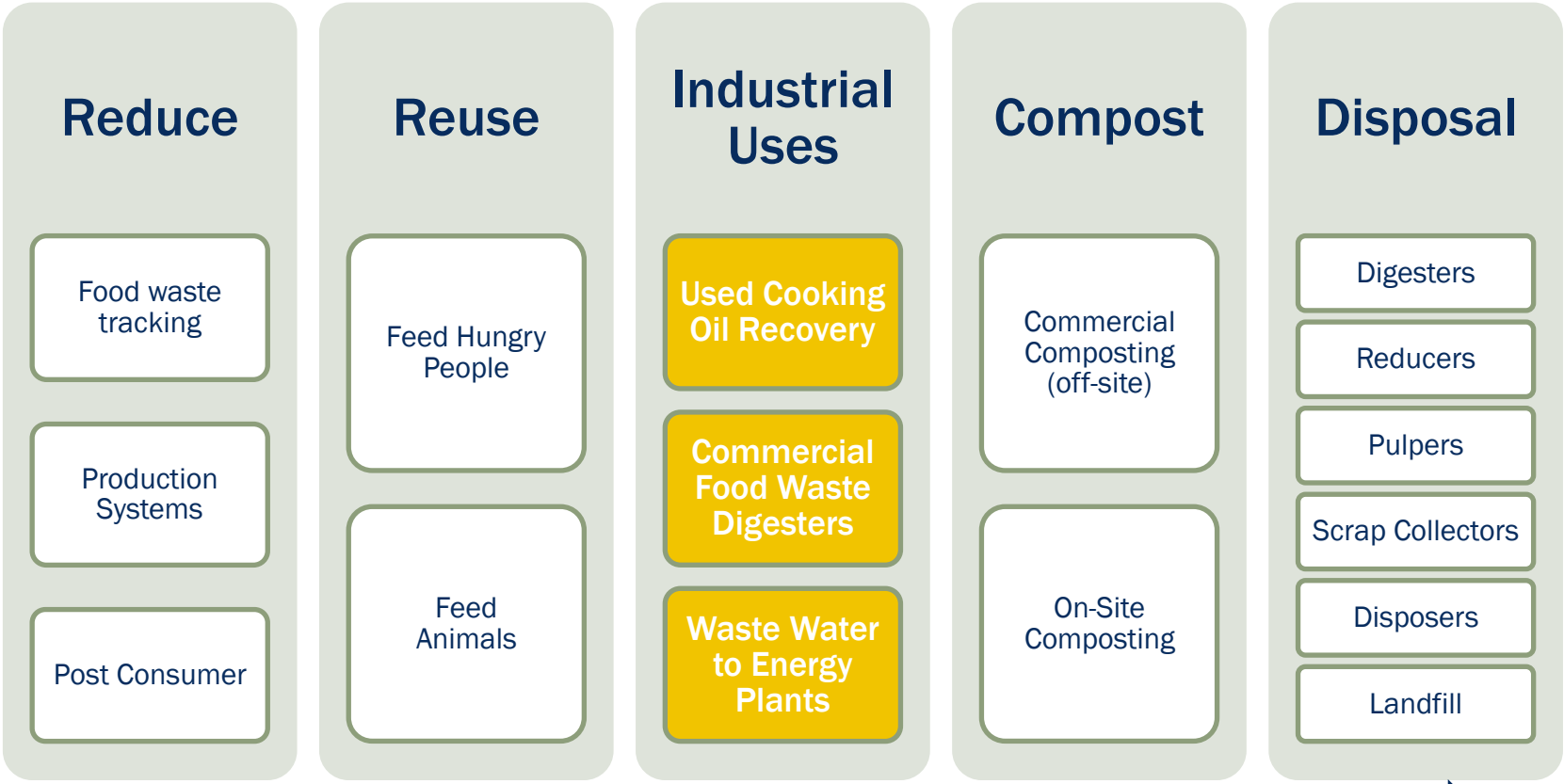
Reuse: Food Recovery

- Feed People
  - Re-use review policy
  - Food Donation Connection
    - www.foodtodonate.com
- Feed Animals
  - Farms may be a viable option

If we cannot prevent or donate,

WHAT PROCESSING AND EQUIPMENT SOLUTIONS EXIST?

Best Management Practices



Industrial Uses: Used Cooking Oil

- Provide used Cooking Oil (UCO) to a biofuel refiner
- Process UCO on-site (e.g. Vegawatt)

Industrial Uses: Food Waste to Energy

- Partner with a commercial biogas digester

FeedStock Prep via Disposers

- Use the municipal waste water system to transport food waste
  - Food is ~70%+ water
- Avoids transportation emissions
- Acceptance varies by region
- WWTP residuals may be used as fertilizers

CONVERTING FOOD WASTE INTO ENERGY AND FERTILIZER

How using a disposer allows capable wastewater treatment plants to recycle food waste into renewable energy and fertilizer

Source: InSinkErator Foodservice

Source: InSinkErator Foodservice

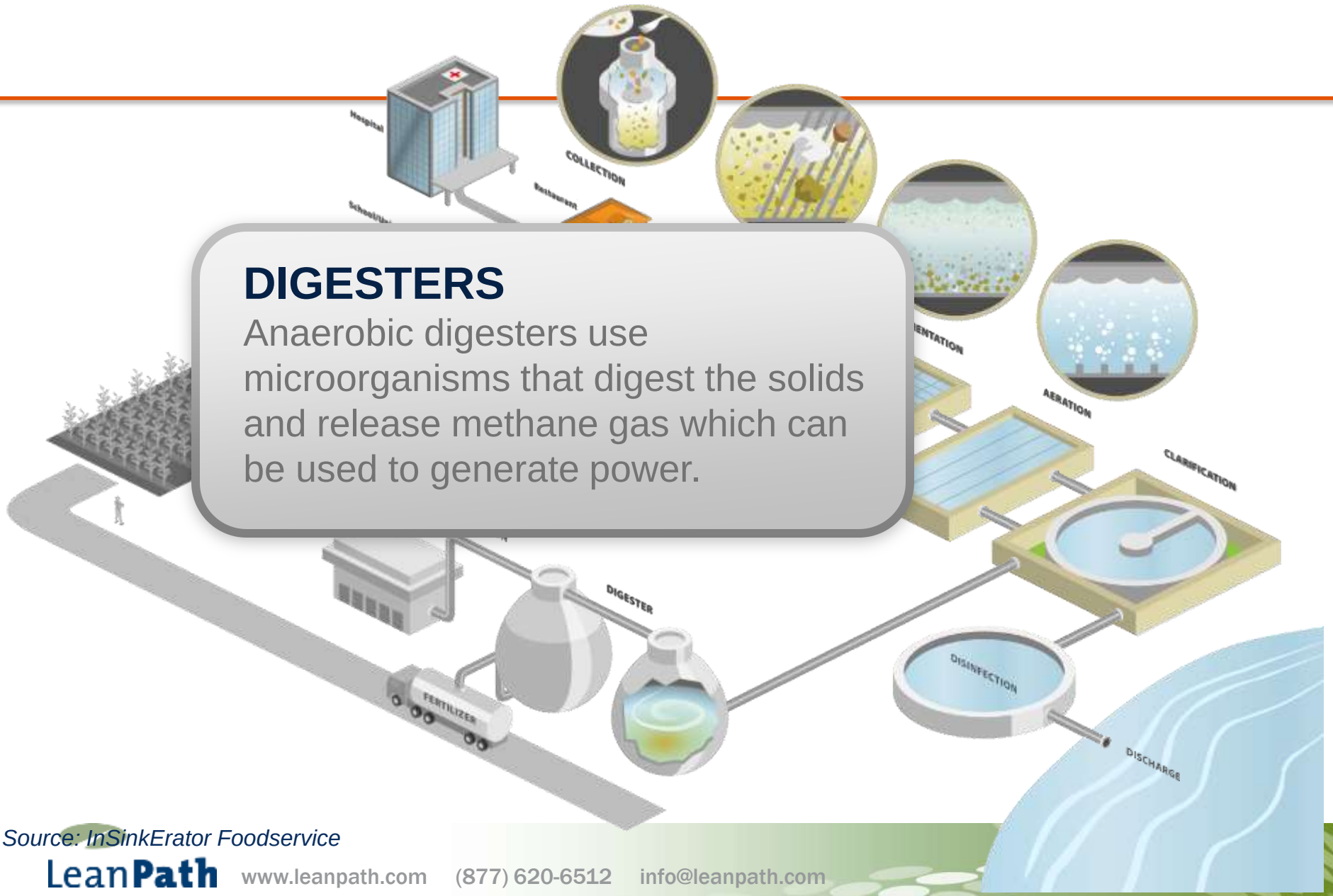
COLLECTION

Food waste disposers grind food scraps into fine particles, which flow through the sewer system to a wastewater treatment facility.

Source: InSinkErator Foodservice

DIGESTERS

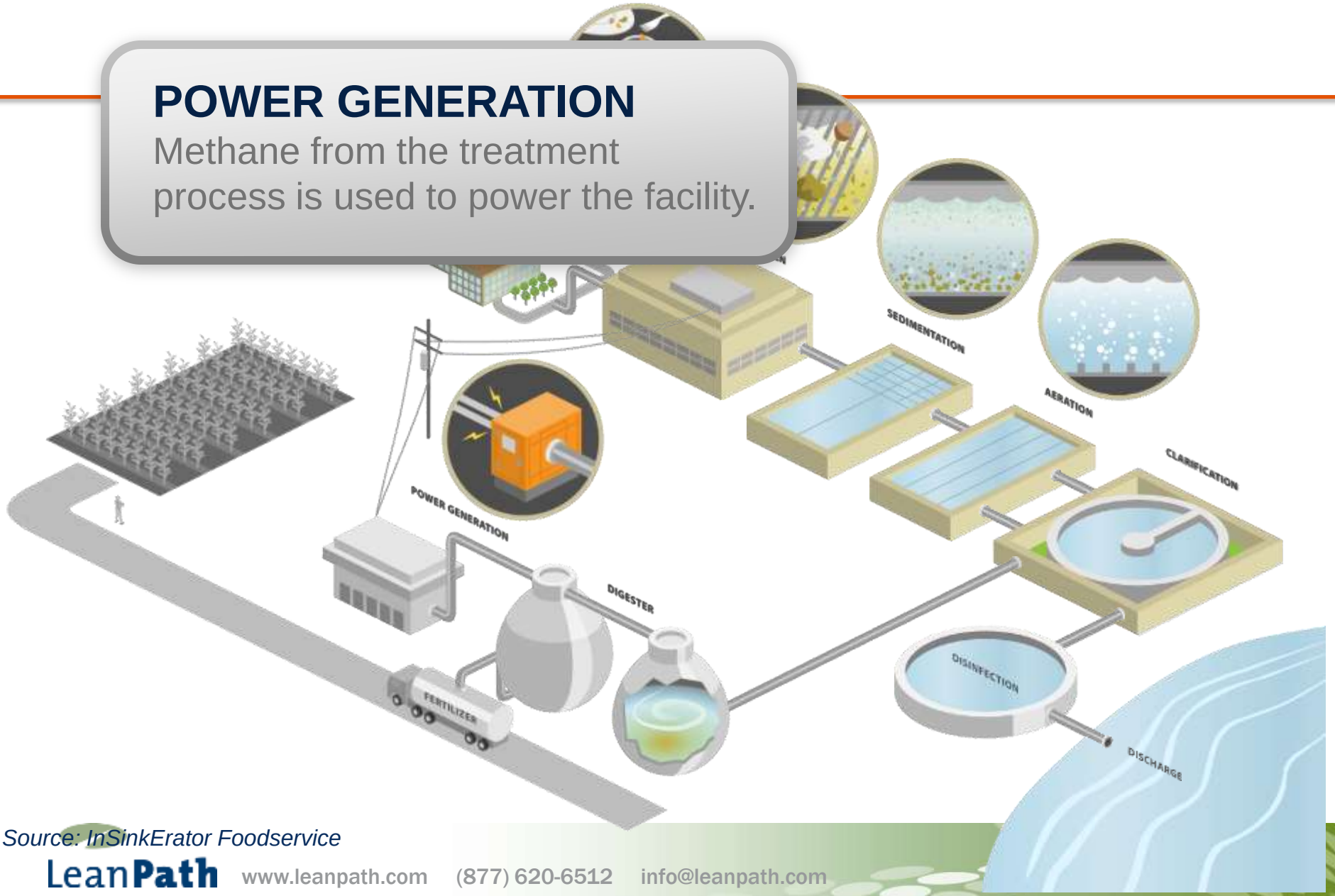
Anaerobic digesters use microorganisms that digest the solids and release methane gas which can be used to generate power.



Source: InSinkErator Foodservice

POWER GENERATION

Methane from the treatment process is used to power the facility.



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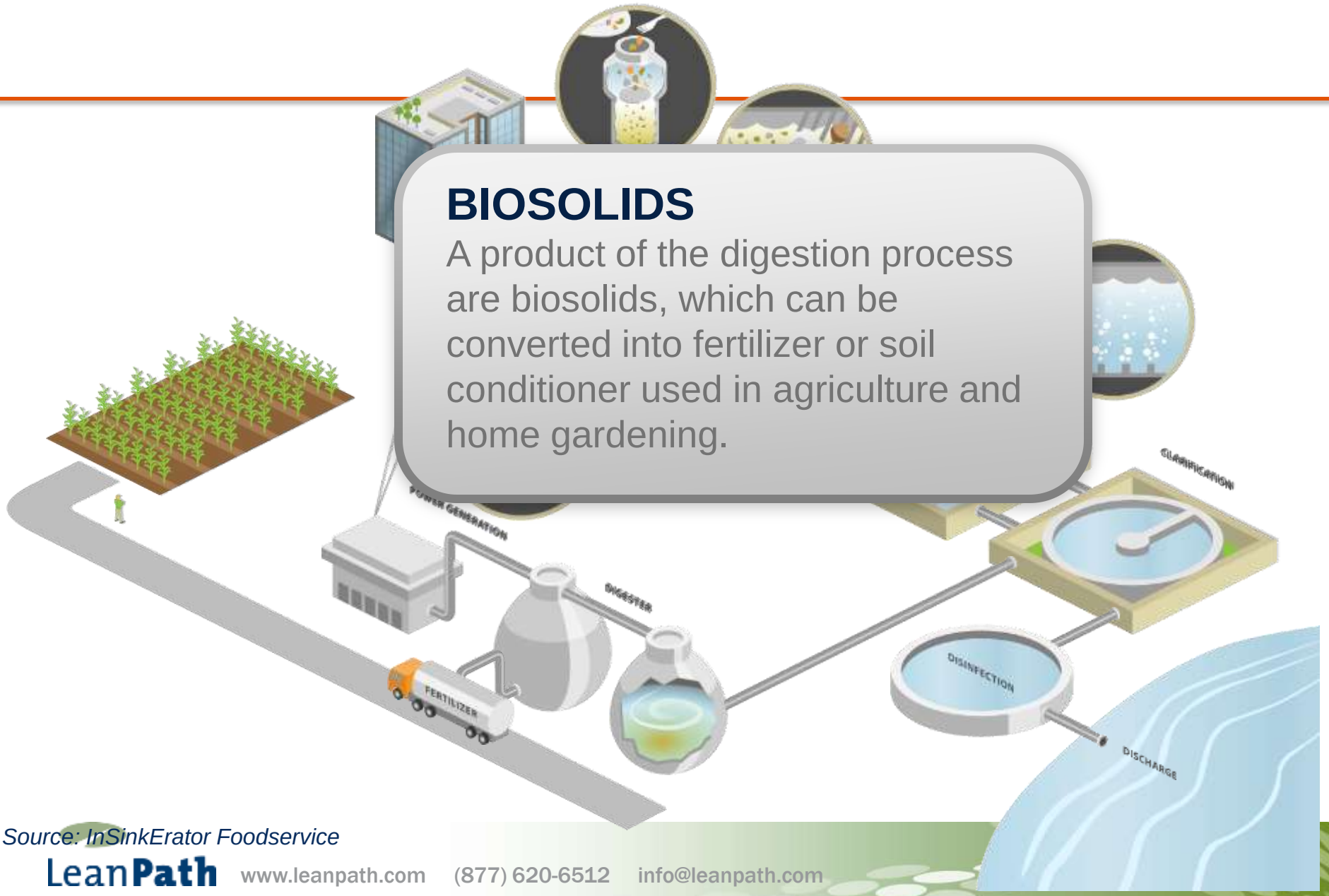
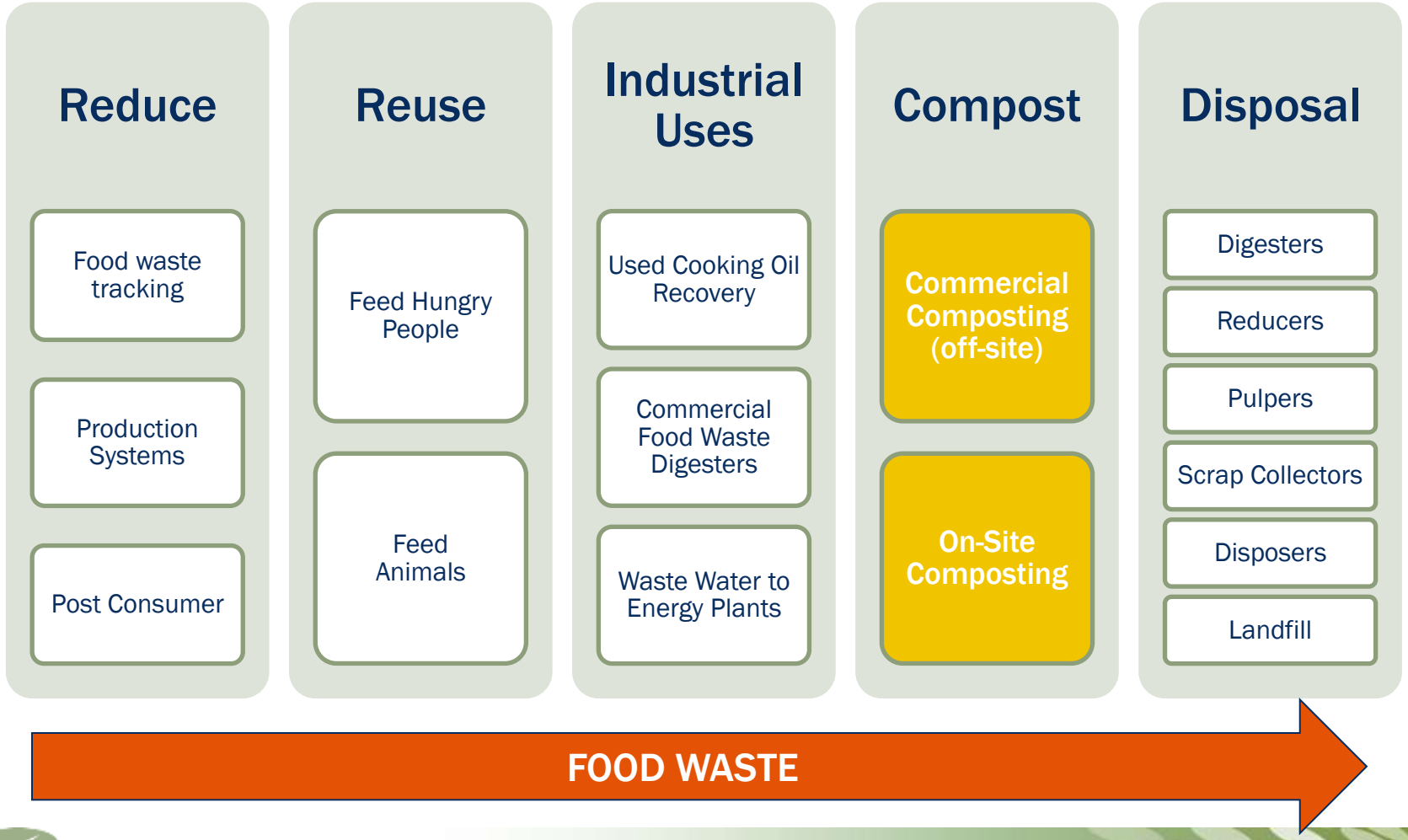


BIOSOLIDS

A product of the digestion process are biosolids, which can be converted into fertilizer or soil conditioner used in agriculture and home gardening.

Source: InSinkErator Foodservice

Best Management Practices



Composting

Many benefits:

- Nutrient rich soil amendment which has numerous applications in agriculture, landscaping, gardening, erosion control, etc.
- Different grades
- Verifiable according to third-party standards

Composting: On-Site

- Options
  - In-vessel
  - Windrow
  - Vermiculture
- Requires
  - Appropriate space
  - Consistent labor
  - Technical skill
  - Compost user(s)

Composting: Off-Site

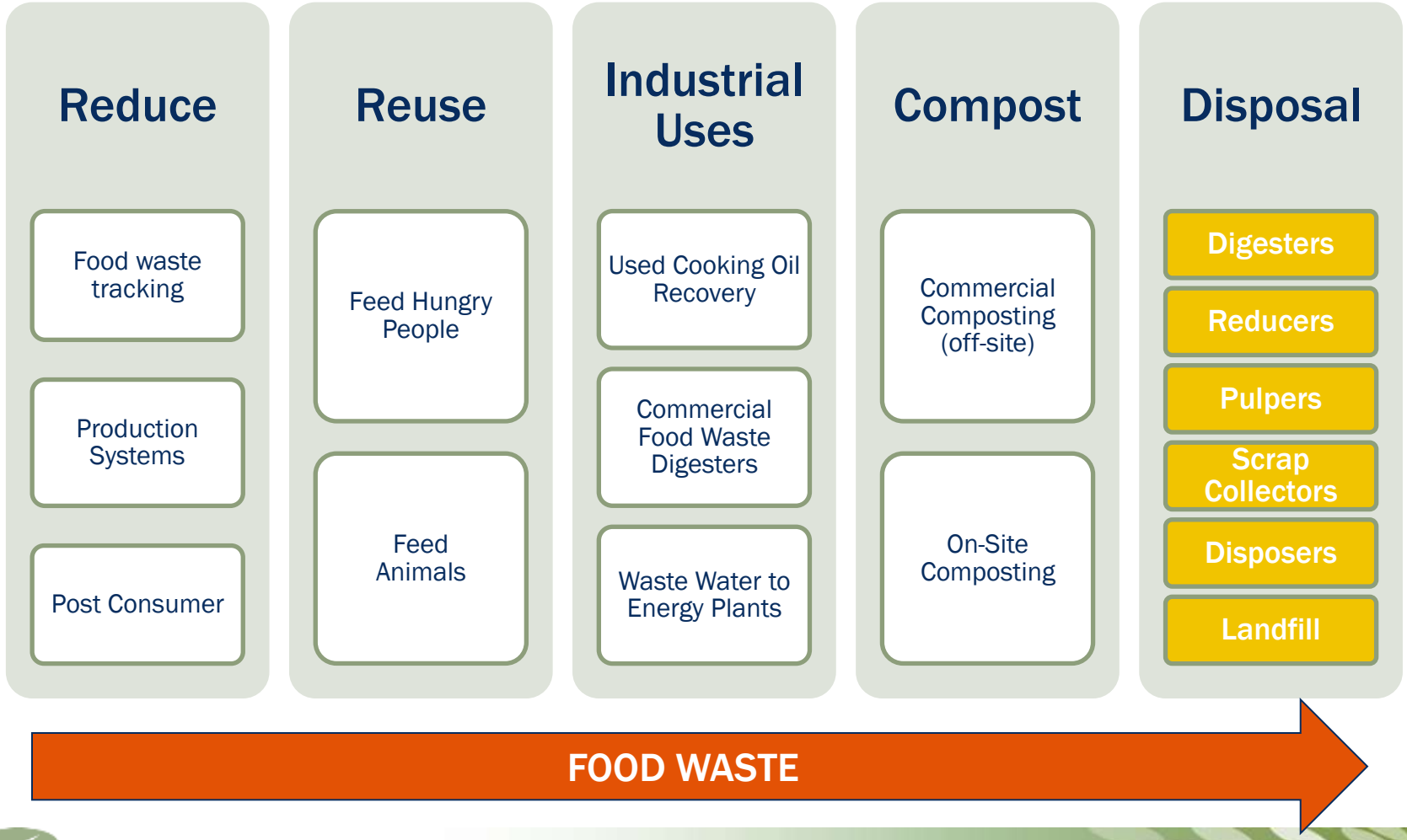
- Commercial food waste composting offers scale, expertise, and distribution

www.findacomposter.com

Commercial Composting

Vertical Food Waste Composter

Best Management Practices



On-Site Digesters

- On-site
- Aerobic
- No energy production

Examples: BioHitech America, OrcaGreen, Bio-EZ

On-Site Reducer

- Reduce volume
- Create a soil amendment (not compost)

Example: Somat

On-Site Pulpers, Scrap Collectors

- Pulpers
  - Macerate
  - Dewater
  - Configurable
    - Close-coupled
    - Remote
- Scrap Collectors
  - Capture non water-solubles

- Reduce transportation Impacts
- Reduce waste volumes by removing water
- Lower disposal costs

Garbage Disposers - Again

If *not* used in a sewer system which produces energy and fertilizer…benefits include

- Reduction in transportation emissions
- Sanitation & labor benefits

Now...

TAKE ACTION!

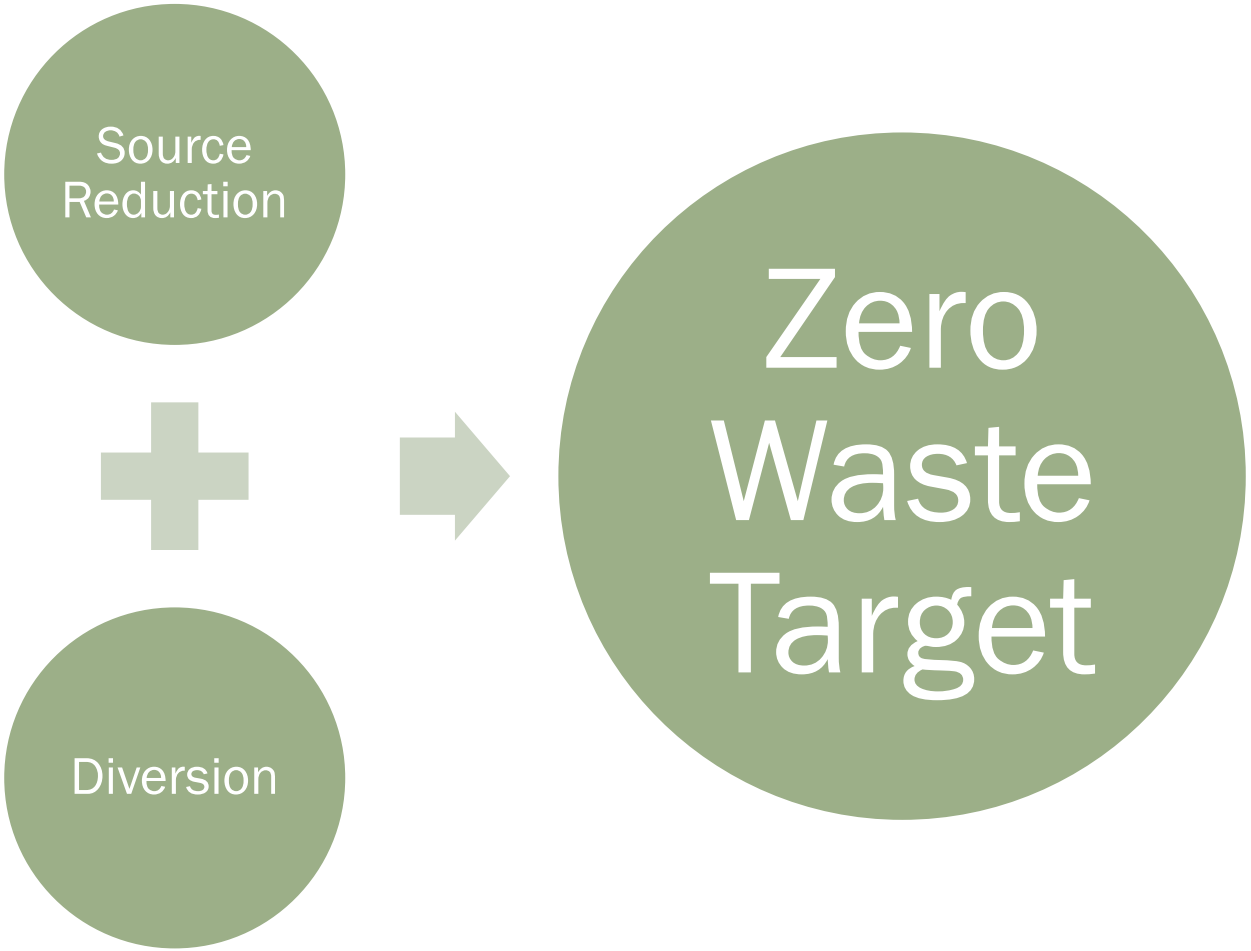
Prevention Checklist

1. Create a positive culture
   - Set the tone and engage your staff
2. Start tracking food waste
   - Pre-consumer food waste daily
   - Post-consumer food waste monthly
3. Use the data
   - Set goals for improvement
   - Test changes to purchasing, production, merchandising, menus
   - Recognize team (where appropriate)

Diversion Checklist

1. Establish a food recovery partnership
2. For the remaining food waste, research your best landfill diversion alternative.
    - Composting?
    - Garbage disposer?
    - Onsite processing?
3. Commit to it.
    - No food waste to landfills

Goal: Zero Landfill Waste



Remember

- You don’t need to be perfect
- Just start moving toward your goal

LeanPath Resources

The Path to Food Waste Reduction Starts Here

- Food Waste Prevention e-newsletter
- Food Waste Focus Blog
- Waste Reduction Toolkit

All available at www.leanpath.com.

Questions?

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Culture eats strategy for lunch.

HOW DO WE CREATE A *CULTURE* THAT'S READY TO REDUCE WASTE?

Why do we waste food?

- It's expensive to **run out so we make more**
- We must serve **safe food**
- Attractive merchandising increases **customer satisfaction** and **sales**
- **Labor cost** control encourages large batch production
- We want convenient service, wide choice, and **broad availability**

Inclusive; Focused

Careful planning doesn't lead to zero food waste. Why? Food waste is ultimately about behavior.

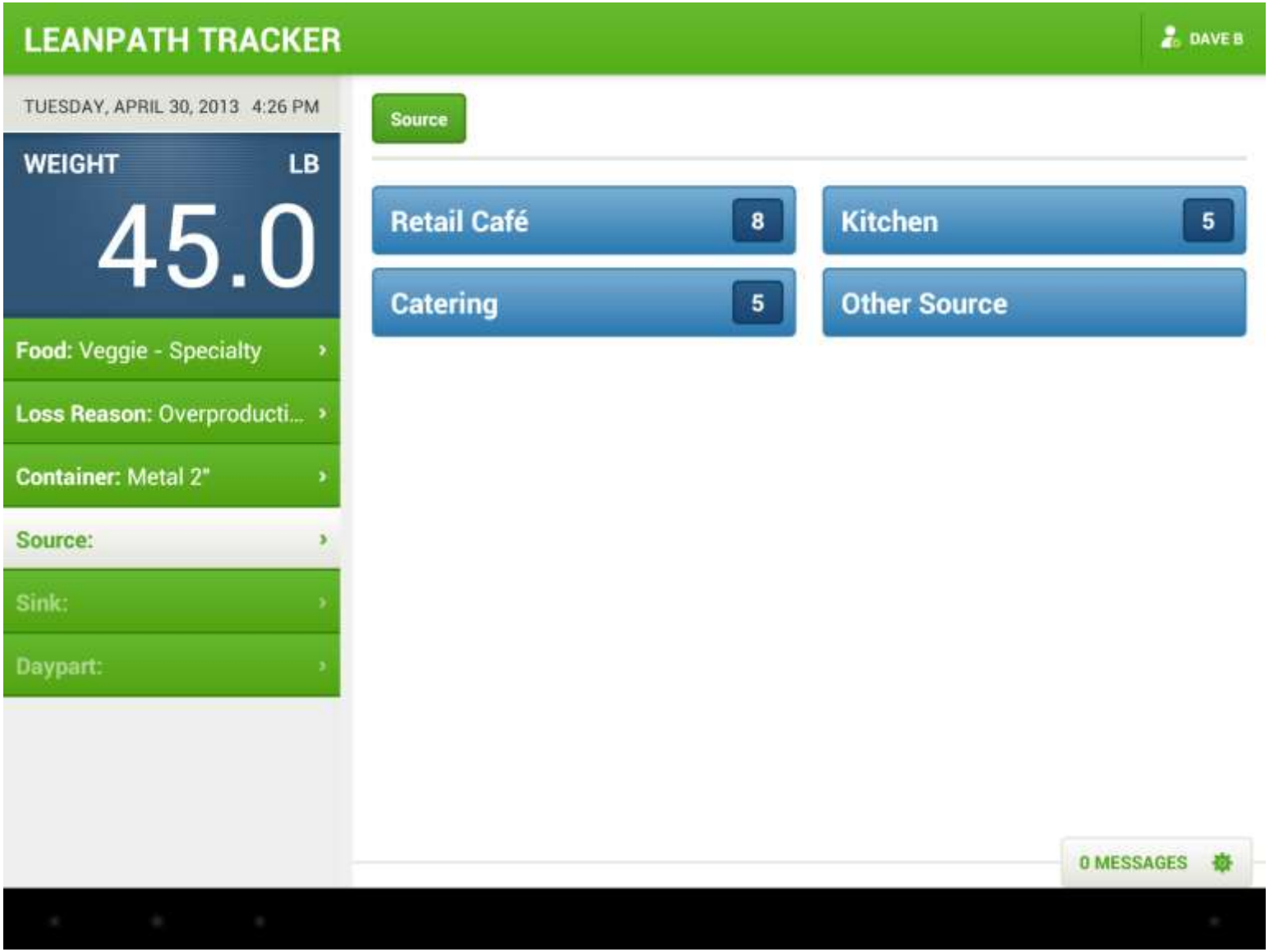
- After managers "plan the work" we need to make sure everyone on the team actually "works the plan."

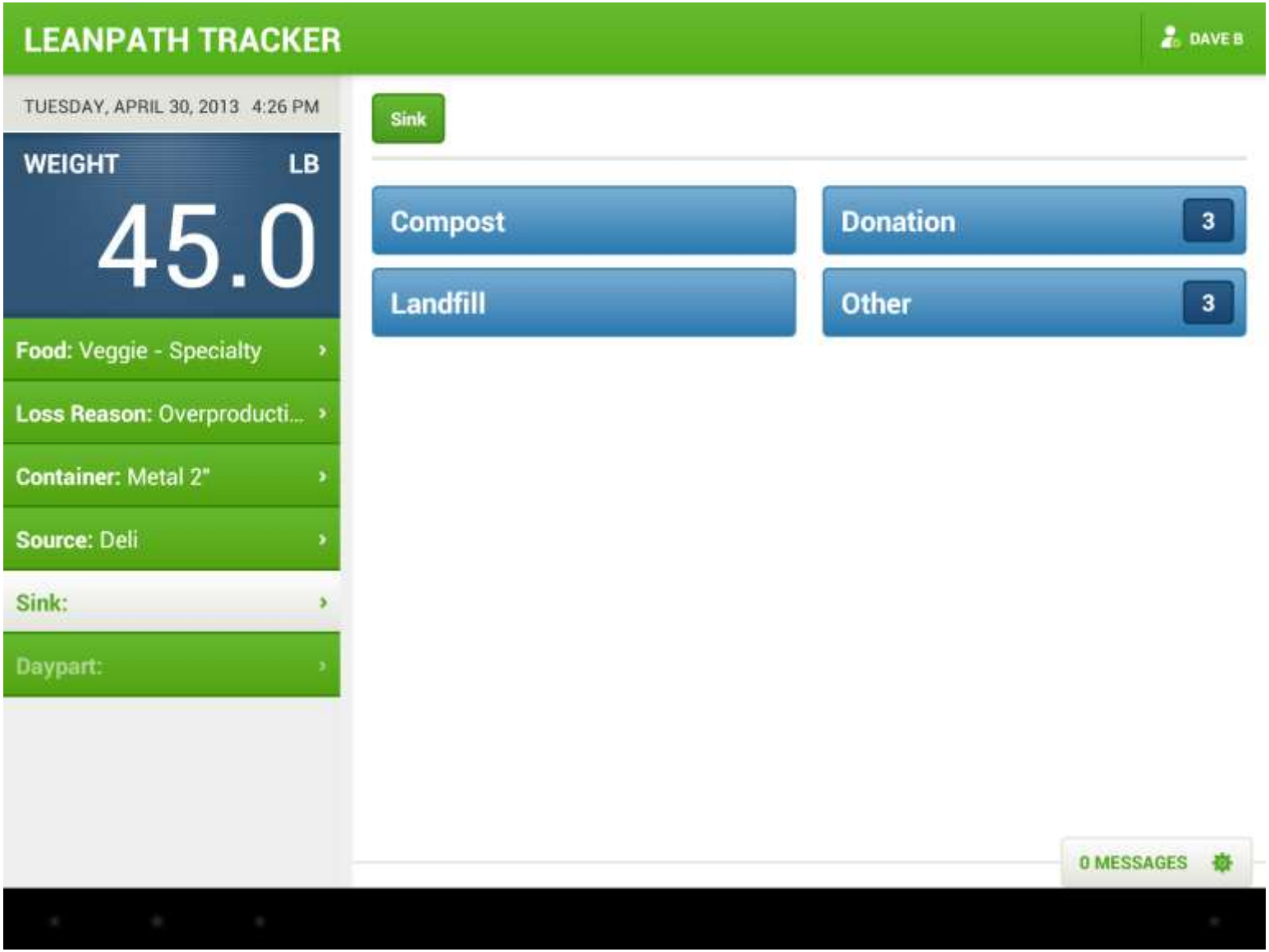
- Engage teams with SMART Goals.

The Ideal Scenario

- Give staff real-time feedback
- Keep your waste goals top-of-mind
- Reward your team members
- Keep them engaged and motivated
- Make everyone feel like they are part of the solution

How?


LEANPATH TRACKER
DAVE B
TUESDAY, APRIL 30, 2013 4:26 PM
WEIGHT LB
45.0
Food: Veggie - Specialty
Loss Reason: Overproducti...
Container: Metal 2"
Source:
Sink:
Daypart:
Source
Retail Café 8
Kitchen 5
Catering 5
Other Source
0 MESSAGES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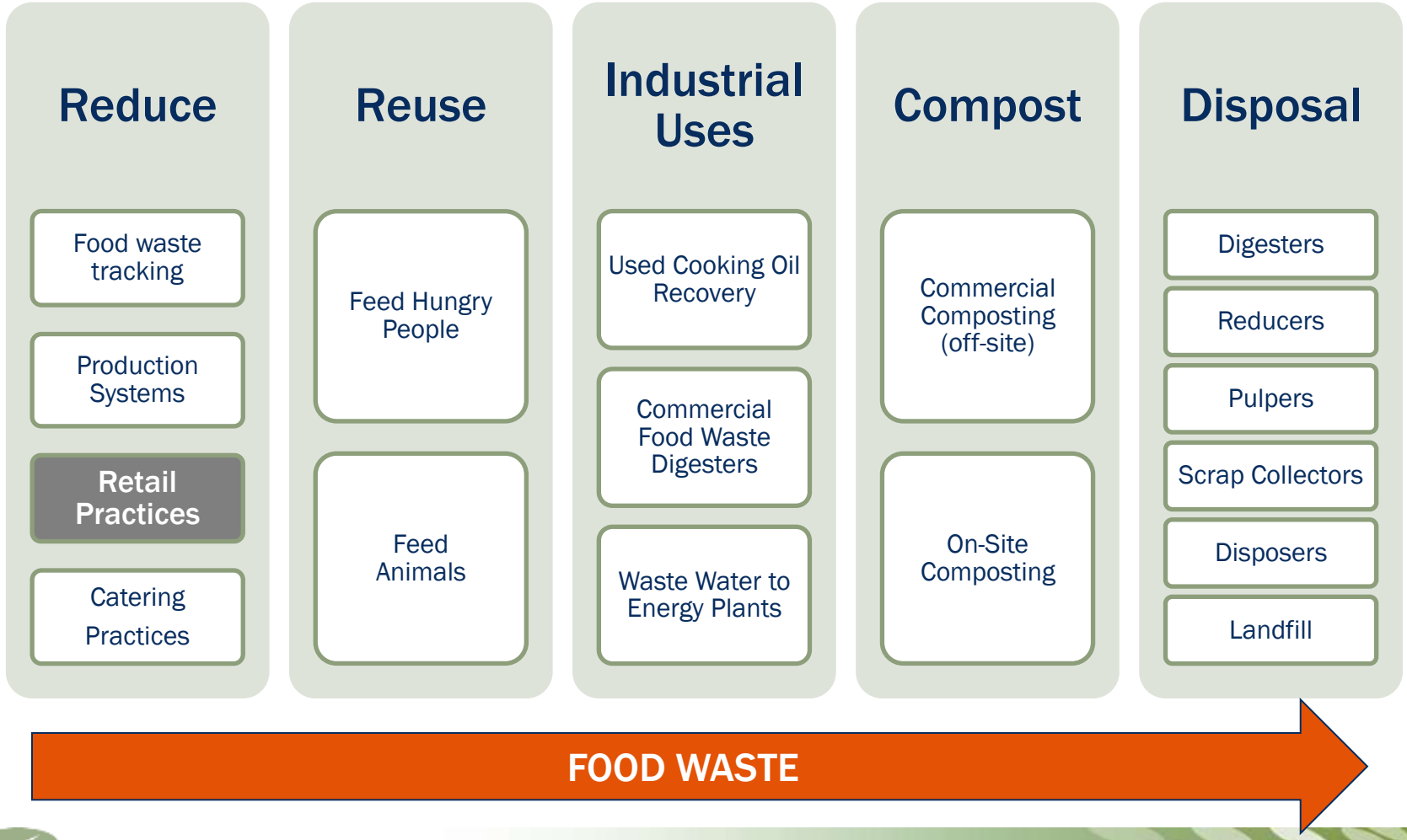
Best Management Practices

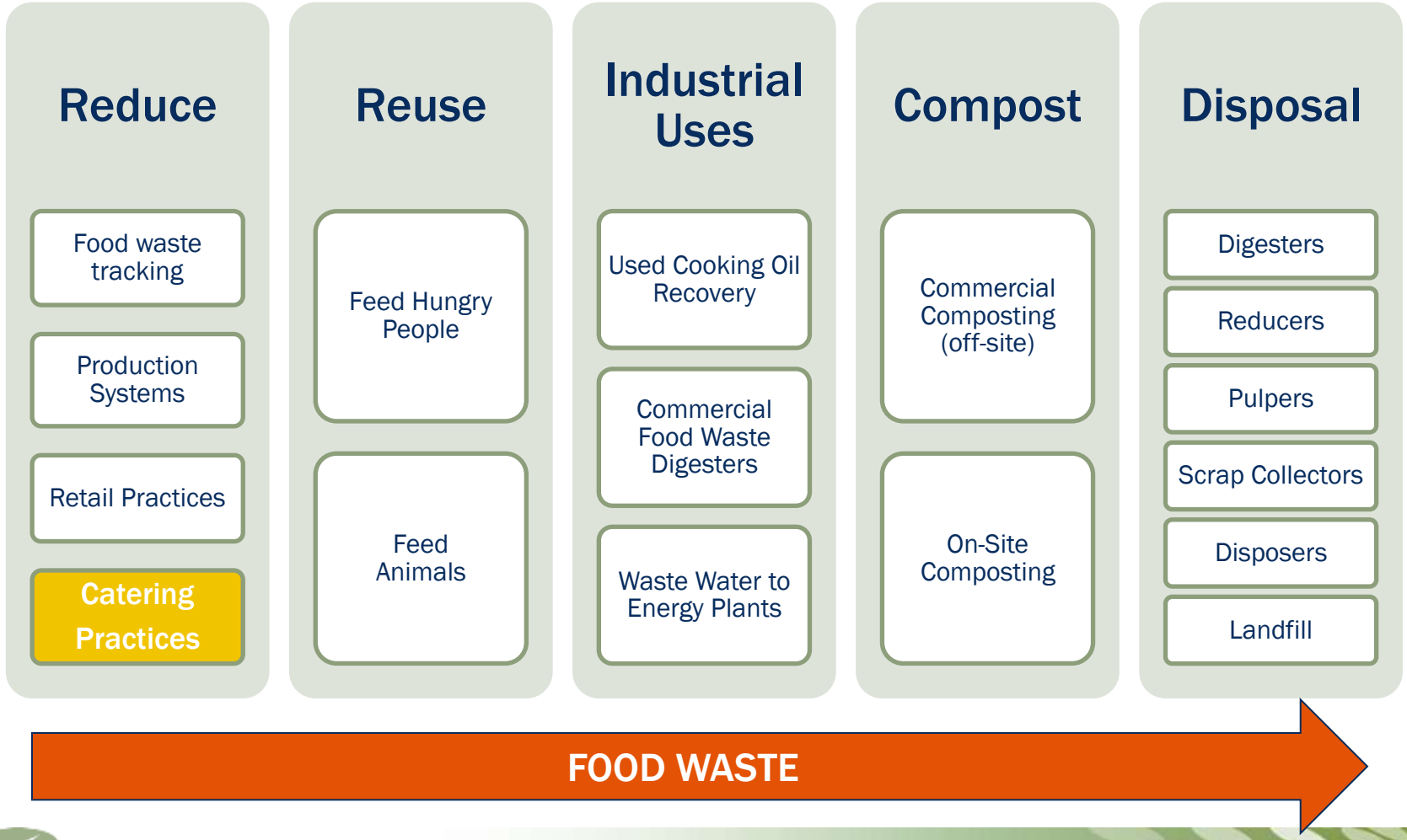


Retail Practices

- Common challenges
  - Soup
  - Salad bars
  - Breakfast
  - Desserts
  - Starches
  - Grab & Go's
  - Pastry
- Planning and execution gaps are a significant problem

- ✓ Review grab & go par levels
- ✓ Provide variety without excess volume

Best Management Practices



Catering Practices

Common Myths

"It's been paid for"

"We have to produce to guarantee"

"It's in the contract"

There's always room for improvement.

Case Study

University of Massachusetts

Results: Within just four months of implementation, they saved $70,000 in waste prevention and reduced food cost by 1% year-over-year.

*"High-end production and high quality food are not what drives up food cost. It's waste that drives up food cost. When you see specific wasted menu items that you can quantify, you can have **meaningful dialogue with your staff and begin to solve some of the problems**."* *Garett DiStefano, Director, Residential Dining*

Case Study

MGM Grand Buffet

Results: $7,500/month average savings in food cost;
Reduced pre-consumer food waste by 80%

*"When you can **zero in on your food waste**, you can control your prep, ordering and production. It's all connected."* *Justin Fredrickson, Exec. Chef*

Case Study

Sanford USD Medical Center

545-bed medical center in Sioux Falls, SD

Results: Within seven months of implementation, **saved $99,928** in waste avoidance, **reducing pre-consumer food waste by 43%.** They continue to experience ongoing savings.

"The system has opened up communication among our groups. Every item on the LeanPath report is an opportunity for discussion."

Nancy Goergen, Training and Development Specialist