

FOOD WASTE PREVENTION: OVERVIEW & TECHNIQUES

Food Loss and Food Waste
International Workshop

November 8, 2016

Andrew Shakman, Co-Founder & CEO, LeanPath



My Perspective



Meet our Advisory Council: Andrew Shakman, LeanPath



8 food data companies to watch

Lauren Hepler

Thursday, August 25, 2016 - 2:15am









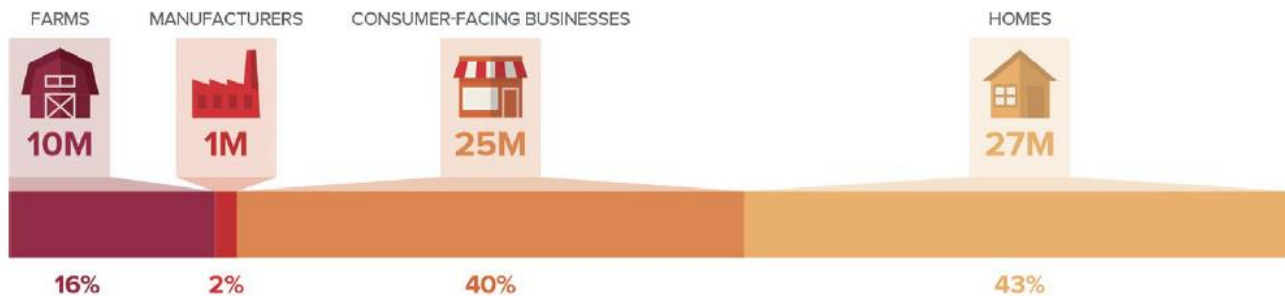
SEAFOOD





Food Waste Distribution

FOOD WASTED BY WEIGHT — 63 MILLION TONS



CONSUMER-FACING BUSINESSES INCLUDE



Source: ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* (2016)

We Must Manage Two Types of Food Waste

Pre-Consumer “Kitchen Waste”

- Due to overproduction, spoilage, expiration, trim waste, etc.
- Controlled by kitchen staff



Post-Consumer “Plate Waste”

- Due to behaviors, portion sizes, self-service, etc.
- Controlled by guests



Pre-Consumer Estimate

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

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



\$9–23 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!

The Cost of Waste: 5/Value = 0



Food



Disposal



Energy/Water



Labor



Lost Sales/Profit

WHY DO WE WASTE FOOD?

The Root Causes of Food Waste



Overproduction



Food Safety



Over-Merchandising



False Labor/Waste Trade-Offs



Customer Experience & Choice



Guarantees & Padding



Special Meals & Custom Menus



Remote Events



High Guest Expectations

HOW DO WE CHANGE THIS?

There Are Many Options

Portion
Control

Trayless

Food
Donation

Food Waste
to
Agriculture

Energy
Production

Composting

Pulping

Dehydrating

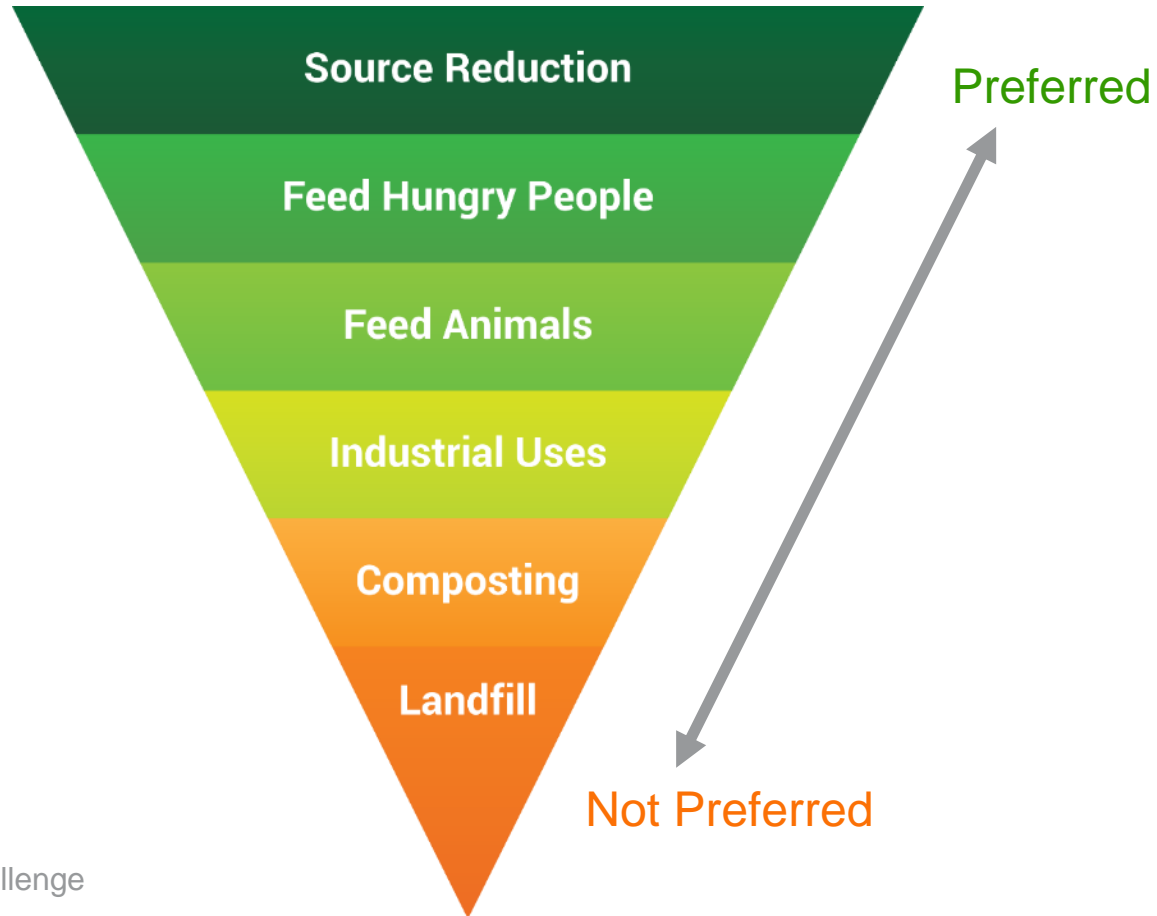
Aerobic
Digestion

Food Waste
Tracking

Guest
Awareness
Programs

Garbage
Disposers

Food Recovery Hierarchy



www.epa.gov/foodrecoverychallenge

Revisiting Benefits of Prevention



Financial



Environmental



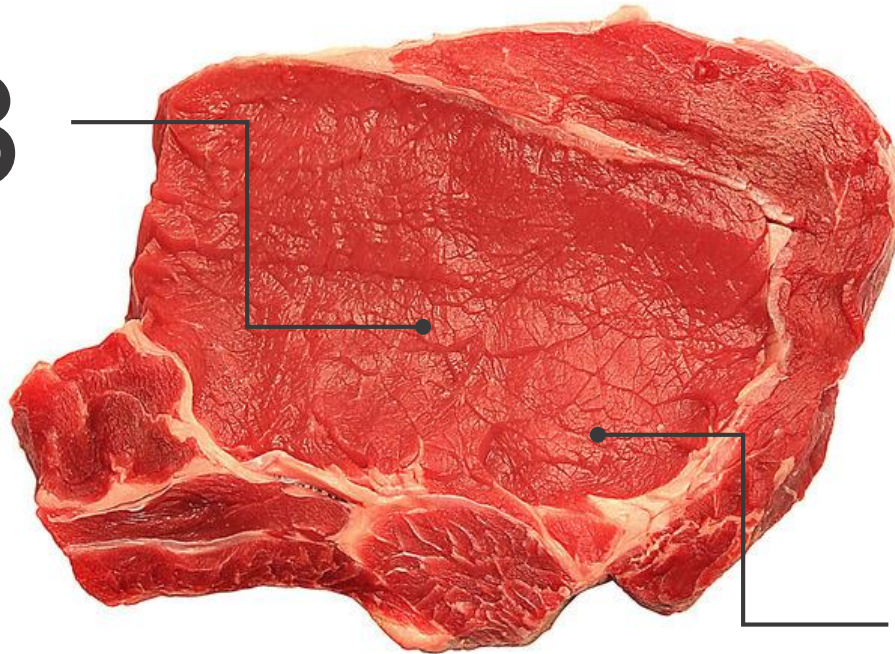
Social

Benefits: Financial



Average Purchase Price
PER LB:

\$5.88



Average Disposal Cost
PER LB:

\$0.04

Source: US Bureau of Labor Statistics & Bucknell University

Benefits: Environmental



3.66 GHG Emissions
per Ton of Food

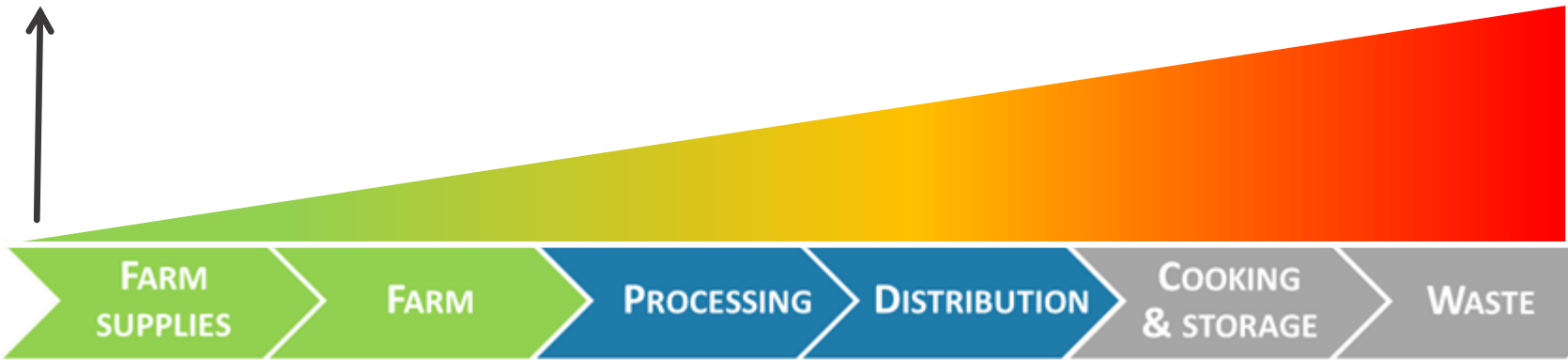
0.71 GHG Emissions
per Ton of Food

<http://www.lifecyclologic.com.au/2013/11/lca-perspective-of-food/>

Benefits: Social



Cost to Recover Food



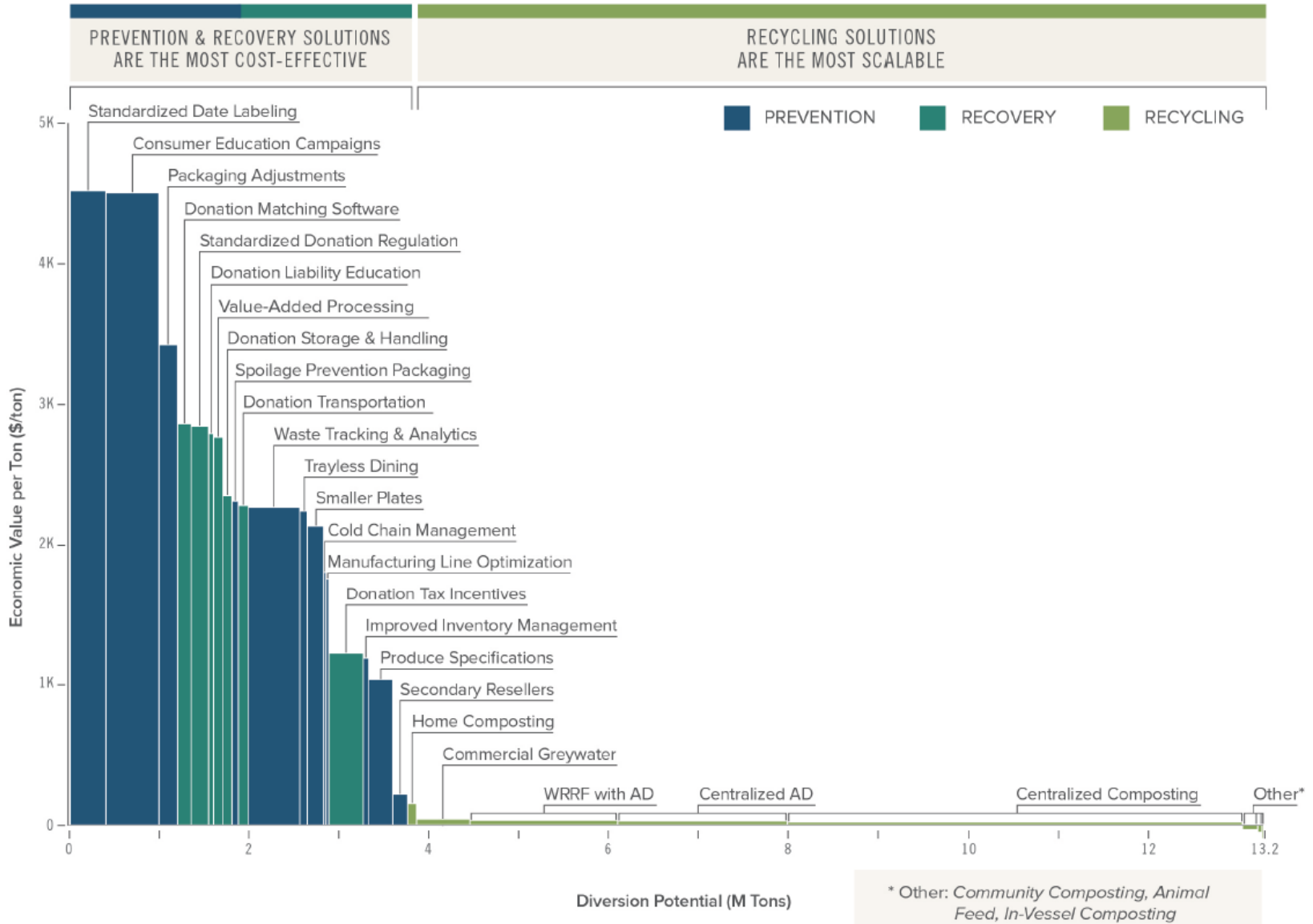
Increased Food Availability



Respect for Workers



MARGINAL FOOD WASTE ABATEMENT COST CURVE



Source: ReFED, A Roadmap to Reduce U.S. Food Waste by 20 Percent (2016)

Key Take Away



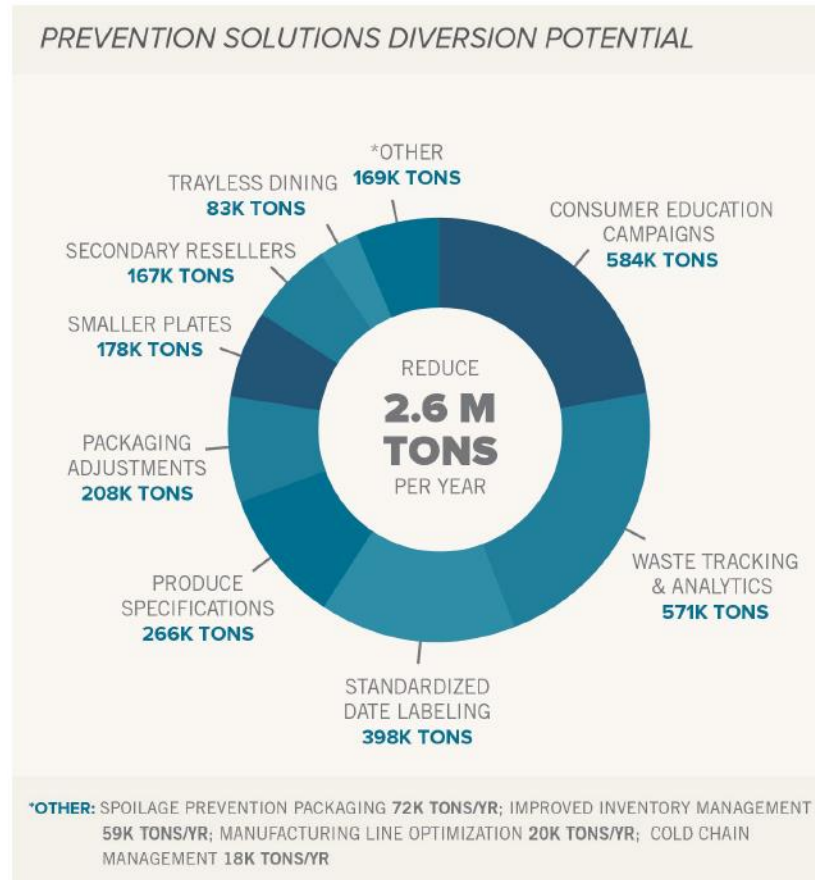
Focus first on food
waste

prevention

because it has the
greatest waste
prevention impact &
greatest ROI

WHAT ARE 8 PRIMARY FOOD WASTE PREVENTION SOLUTIONS?

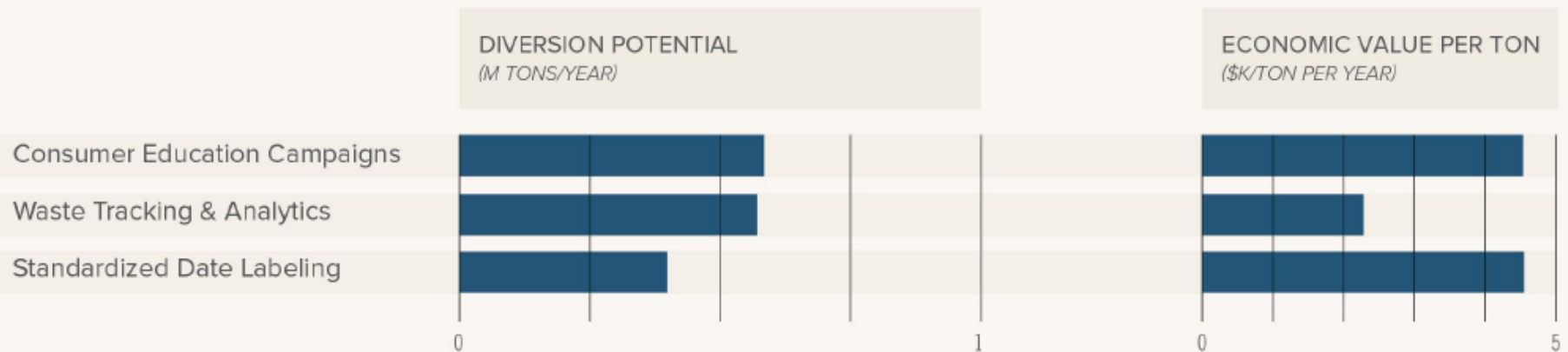
Prevention Solutions Diversion Potential



Source: ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* (2016)

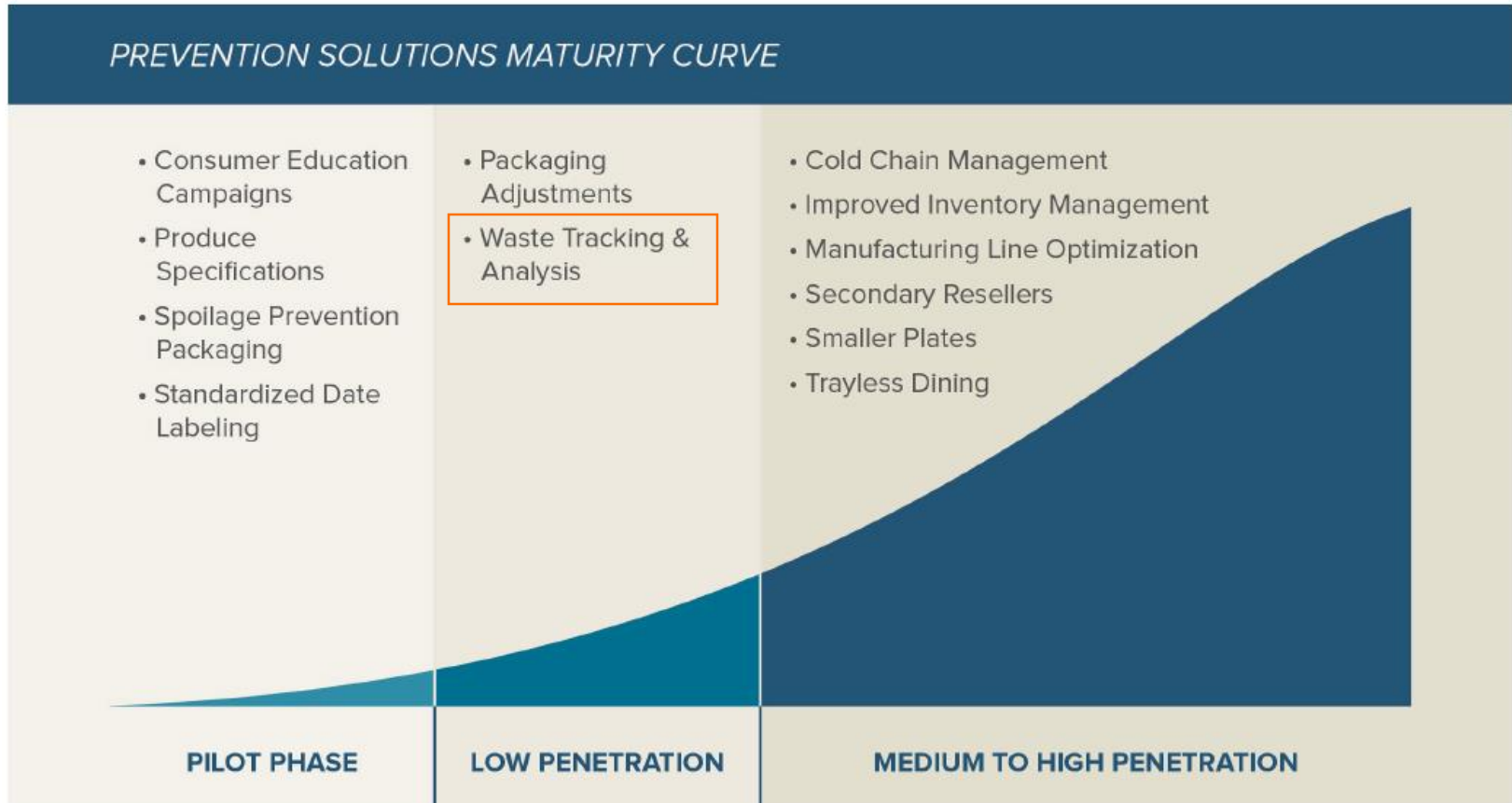
Top Three Prevention Solutions

TOP THREE PREVENTION SOLUTIONS BY DIVERSION POTENTIAL



Source: ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* (2016)

Prevention Solutions Maturity Curve



Source: ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* (2016)

WHY WASTE TRACKING & ANALYTICS?

Food waste is a behavioral problem. Successful prevention requires everyone to consistently repeat the right behaviors at scale.

IMPLEMENTING MEASUREMENT

What Gets Measured Gets Managed

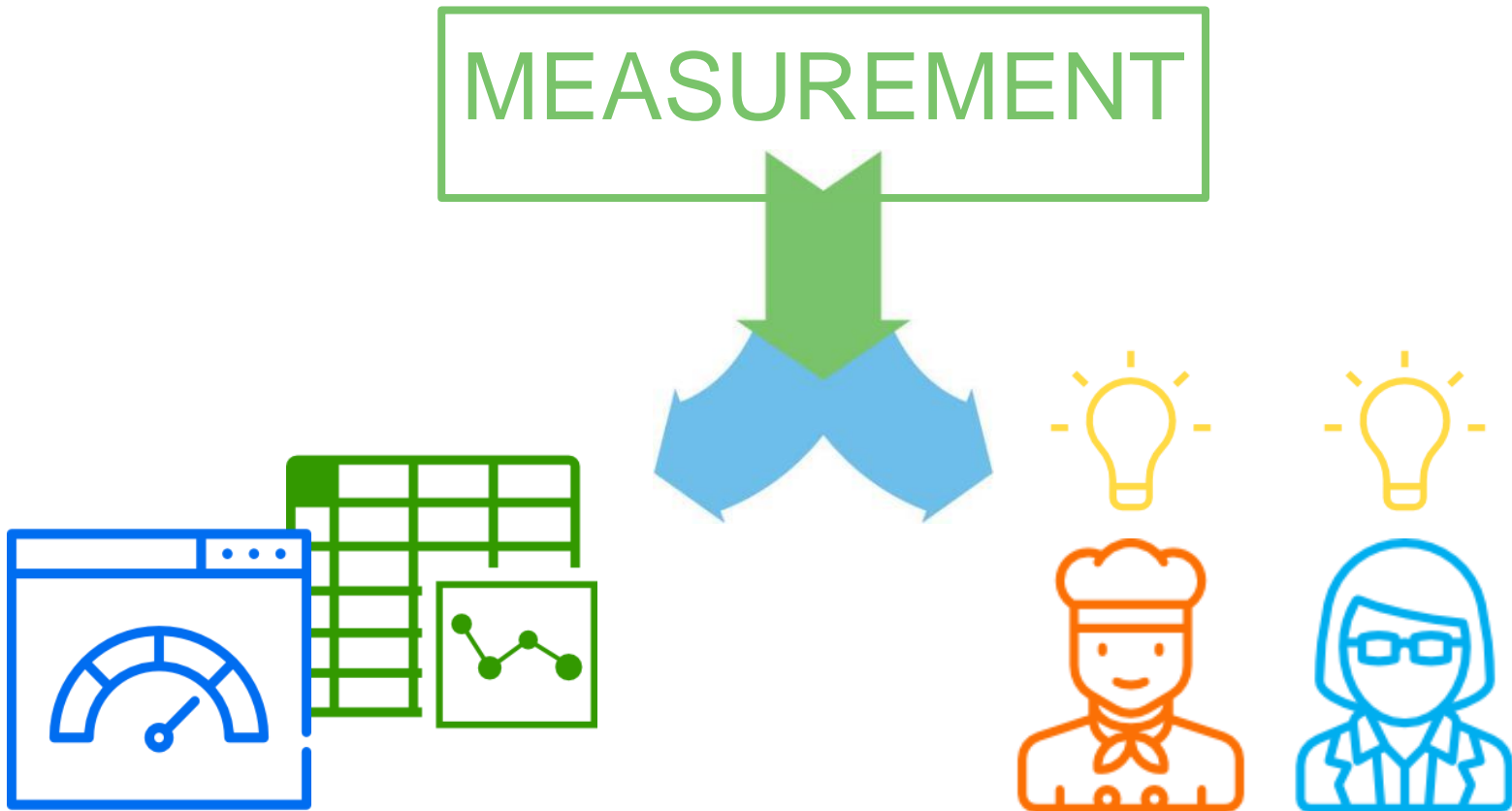


— METRICS INFLUENCE BEHAVIOR —

We Must Put “Food Waste” On the Scoreboard

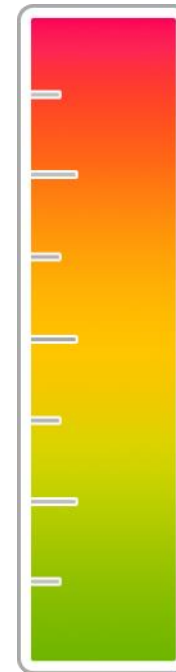


Measurement is the Key



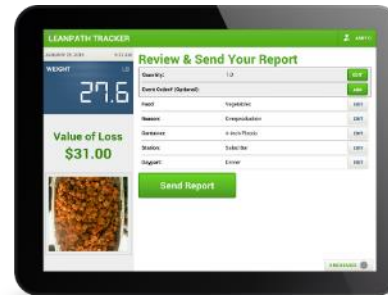
Food Waste Is a Critical Control Point

- What can you learn from your trash?



Smart Meters Make It Easy

1-step
Real-time



Tech Tracking Process Example



Kitchen



Tracking Station



Servery



Garbage / Disposal

YOUR REPORT WAS RECEIVED !

THANKS FOR TRACKING!

FINANCIAL IMPACT

Item Value: **\$31.00**

If Wasted Daily for a Year: **\$11,315**

Abby D STATS

LAST 30 DAYS

Reports: 9

Team Rank: 3

Create Another Report

Finished Tracking

Environmental Impact

Resources consumed if wasted daily for a year:

8979.0 bath tubs of water



329.5 gallons of oil

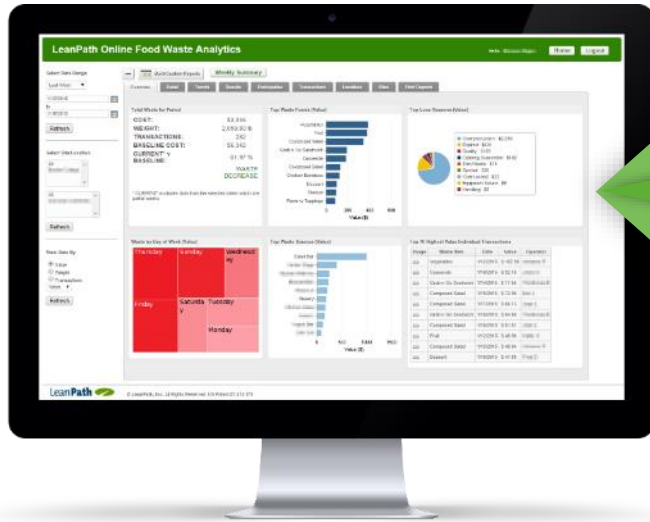


0.7 cars on the road

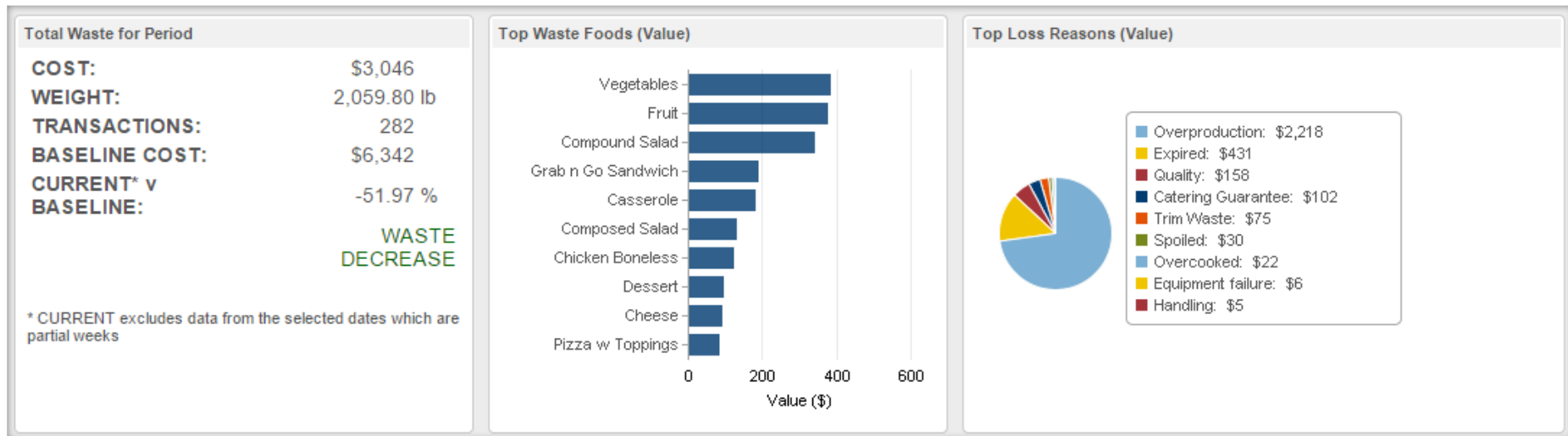


Use behavioral science to engage employees and inspire change.

Data Moves to Cloud



Example Dashboard Reports



Total Waste Overview // Top Wasted Foods (by value) // Top Loss Reasons (by value)

Waste Overview Reports

DAILY FOOD WASTE REPORT: EXAMPLE SITE WASTE OVERVIEW

WEDNESDAY | OCTOBER 26, 2016

TODAY'S WEATHER FORECAST:
Light rain starting tomorrow afternoon.

TOTAL DAILY WASTE BY VALUE

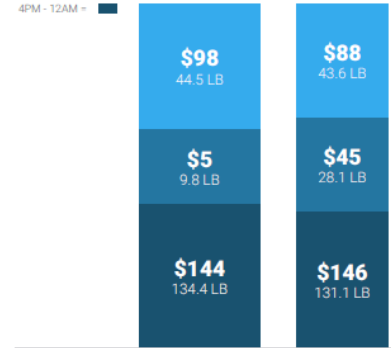
THIS WEEK - ■
LAST WEEK - ■



DATE	MON 24 OCT	TUE 25 OCT	WED 26 OCT	THU 27 OCT	FRI 28 OCT	SAT 29 OCT	SUN 30 OCT
VALUE	\$199	\$247	-	-	-	-	-
WEIGHT	188.3 LB	188.7 LB	-	-	-	-	-
VS SAME DAY LAST WEEK	▼ \$39 ▼ 4.8 LB	▼ \$33 ▼ 14.1 LB	-	-	-	-	-

WASTE BY TIME OF DAY

12AM - 12PM - ■ YESTERDAY
12PM - 4PM - ■
4PM - 12AM - ■ LAST TUESDAY



TOP ITEMS WASTED

ITEM	YESTERDAY	WEEK-TO-DATE	TRANSACTIONS
Deli Meat	\$45 12.5 LB	\$45 12.5 LB	1
Fruit	\$39 22.8 LB	\$85 49.2 LB	2
Vegetables	\$38 69.3 LB	\$99 169 LB	12
Mixed Protein	\$24 19.1 LB	\$24 19.1 LB	1
Chicken - Boneless	\$24 9.6 LB	\$46 18.9 LB	2

CHARACTERIZATION LEVEL

CHARACTERIZATION LEVEL: EXCELLENT



UNCHARACTERIZED TRANSACTIONS

TRANSACTIONS	YESTERDAY	VS LAST TUESDAY
	0	NO CHANGE
VALUE	\$0	NO CHANGE
WEIGHT	0 LB	NO CHANGE

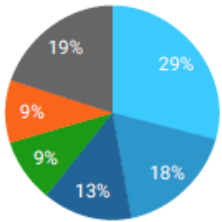
TOP WASTE BY REASON CODE

REASON CODE	YESTERDAY	WEEK-TO-DATE	8 WEEK TREND
Expired	\$116 63.3 LB	\$141 79.4 LB	
Overproduction	\$85 74 LB	\$175 154.2 LB	
Quality	\$42 26.6 LB	\$63 54.1 LB	

Breaking Down the Data

WASTE BY SOURCE : ALL

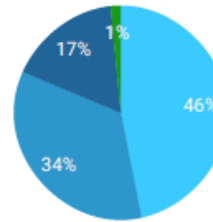
WASTE BY VALUE



SOURCE	VALUE	WEIGHT
Kitchen	\$72	71.9 LB
Deli	\$45	12.5 LB
Grab & Go	\$34	17 LB
Retail	\$24	19.1 LB
Grill	\$24	30.7 LB
Other	\$49	37.5 LB

WASTE BY REASON CODE : ALL

WASTE BY VALUE



REASON CODE	VALUE	WEIGHT
Expired	\$116	63.3 LB
Overproduction	\$85	74 LB
Quality	\$42	26.6 LB
Trim Waste	\$4	24.8 LB

WASTE BY SOURCE : TOP 3 DRILL-DOWN

1. Kitchen	VALUE	WEIGHT	VS LAST WEEK
Fruit	\$22	13 LB	▼ \$7 ▼ 4 LB
Pasta	\$19	17.6 LB	▲ \$19 ▲ 17.6 LB
Vegetables	\$13	29.8 LB	▲ \$7 ▲ 16.2 LB

WASTE BY REASON CODE : TOP 3 DRILL-DOWN

1. Expired	VALUE	WEIGHT	VS LAST WEEK
Deli Meat	\$45	12.5 LB	▲ \$45 ▲ 12.5 LB
Grab n Go Sandwich	\$14	7 LB	▲ \$8 ▲ 4 LB
Grab n Go Salad	\$14	7 LB	▲ \$10 ▲ 5 LB

Drill down into what food items are being wasted, from where and for what reasons.

WHAT RESULTS WILL MEASUREMENT PRODUCE?

Adjust Production

- Use knowledge of food types to adjust production levels
- Change batch production methods
- Use data to know how much to pad numbers for banquets and buffets



Purchase Differently

- Adjust standing par levels
- Consider alternate product options with less waste, such as pre-cut / pre-sliced
- Adjust pack sizes



Adjust Order Guides & Menus

- Create more accurate order guides based on waste trend data
 - Knowing how much of a certain food customers eat on average helps provision the right amount
- Eliminate high-waste menu items
- Reduce complexity and streamline inventories



Influence Front-Line Behavior

- Ensure the execution matches the intended plan
- Identify training needs through data, such as a knife skills course
- Coach individuals to identify safe re-use opportunities



Measurable Impact

Save **2-6% or more** on annual food purchases.

Reduce pre-consumer food waste by **50% or more**.


Save **\$12 for every \$1** spent on food waste measurement programs.



** Source: Common LeanPath client results.*

Additional Benefits

- **SAVE ON LABOR**
because staff spend less time preparing wasted items.
- **SAVE ON WASTE DISPOSAL COSTS**
because you're throwing away less.
- **PROTECT THE ENVIRONMENT**
from the harmful effects of food waste, which produces methane gas.
- **BETTER, FRESHER FOOD**
adds value to your operation.
- **MARKETING & COMPETITIVE BENEFITS**
increase customer satisfaction and promote your CSR/green efforts.

A pair of hands is shown from the front, cupping a bunch of ripe, dark blue grapes. The grapes are still attached to their green leaves. The background is softly blurred, showing what appears to be a person's torso in a light-colored shirt. The overall lighting is natural and soft, highlighting the texture of the grapes and the skin of the hands.

Reducing food waste is not optional work.

Working together, we can create a world with no avoidable food waste.

QUESTIONS

Andrew
Shakman

President & CEO

LeanPath, Inc.

www.LeanPath.com