



**Materials Management 101:**

# **What's the Big Deal about Wasted Food, Part 1**

**September 17, 2024**

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**Kristine Ellsworth, NYS DEC**

**Conor Miller, Black Earth Compost**

# WHAT'S THE BIG DEAL ABOUT FOOD WASTE?

Mike Nork – Supervisor, Materials Management



NEWMOA Materials Management Webinar  
September 17, 2024



# Food Loss & Waste – A National Problem

In 2022, Roughly 38% of US food supply went unsold or uneaten – result of losses at **all levels** of the supply chain

Source: ReFED



# Where does food loss occur?



FARMS



MANUFACTURERS



RETAILERS

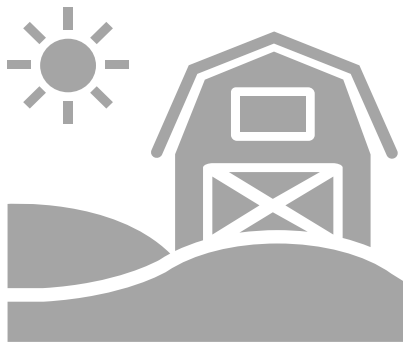


FOOD SERVICE



HOMES

# Food loss from Producers

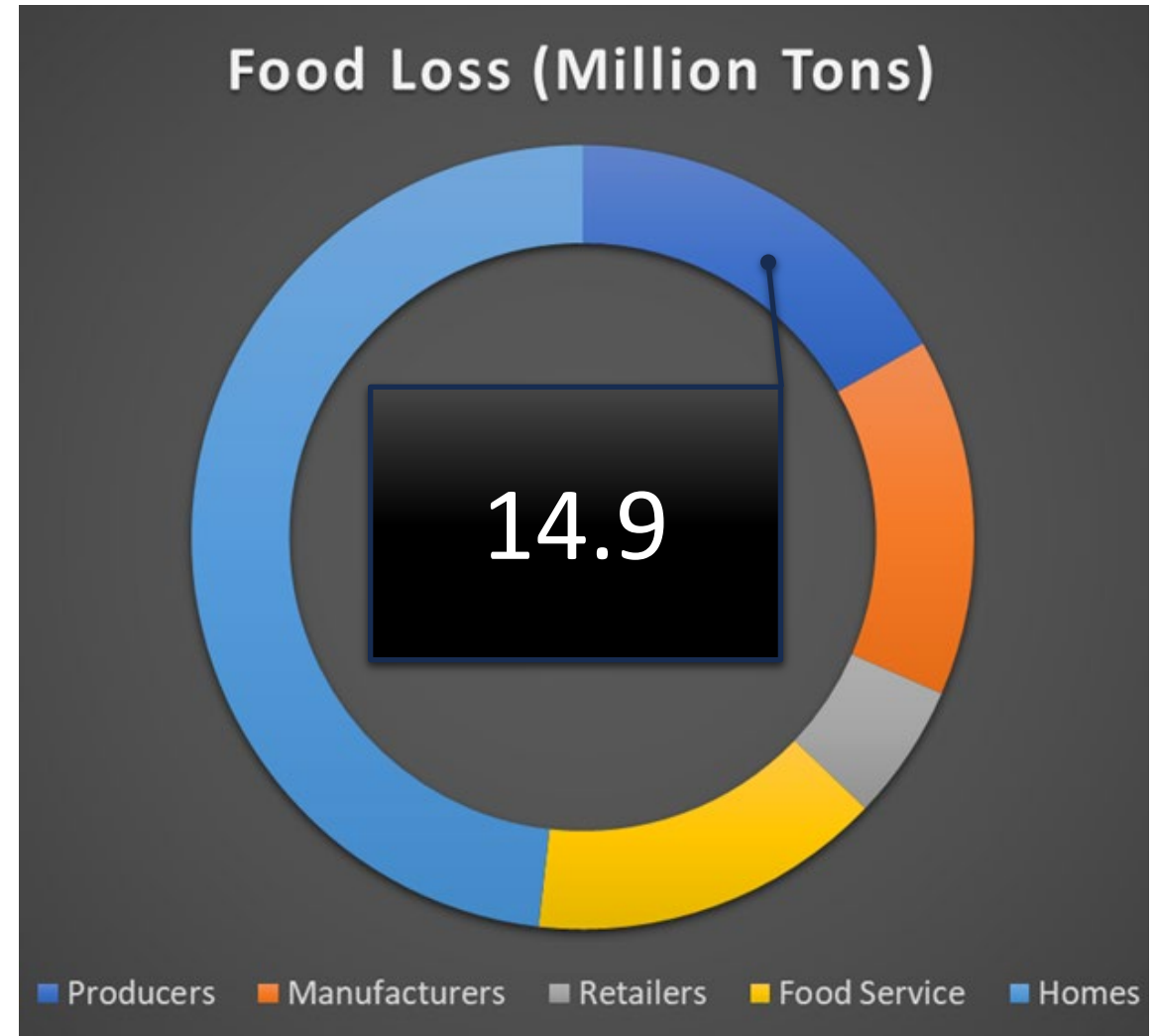


**Farms do not harvest what they produce**

Cosmetic standards

Market forces

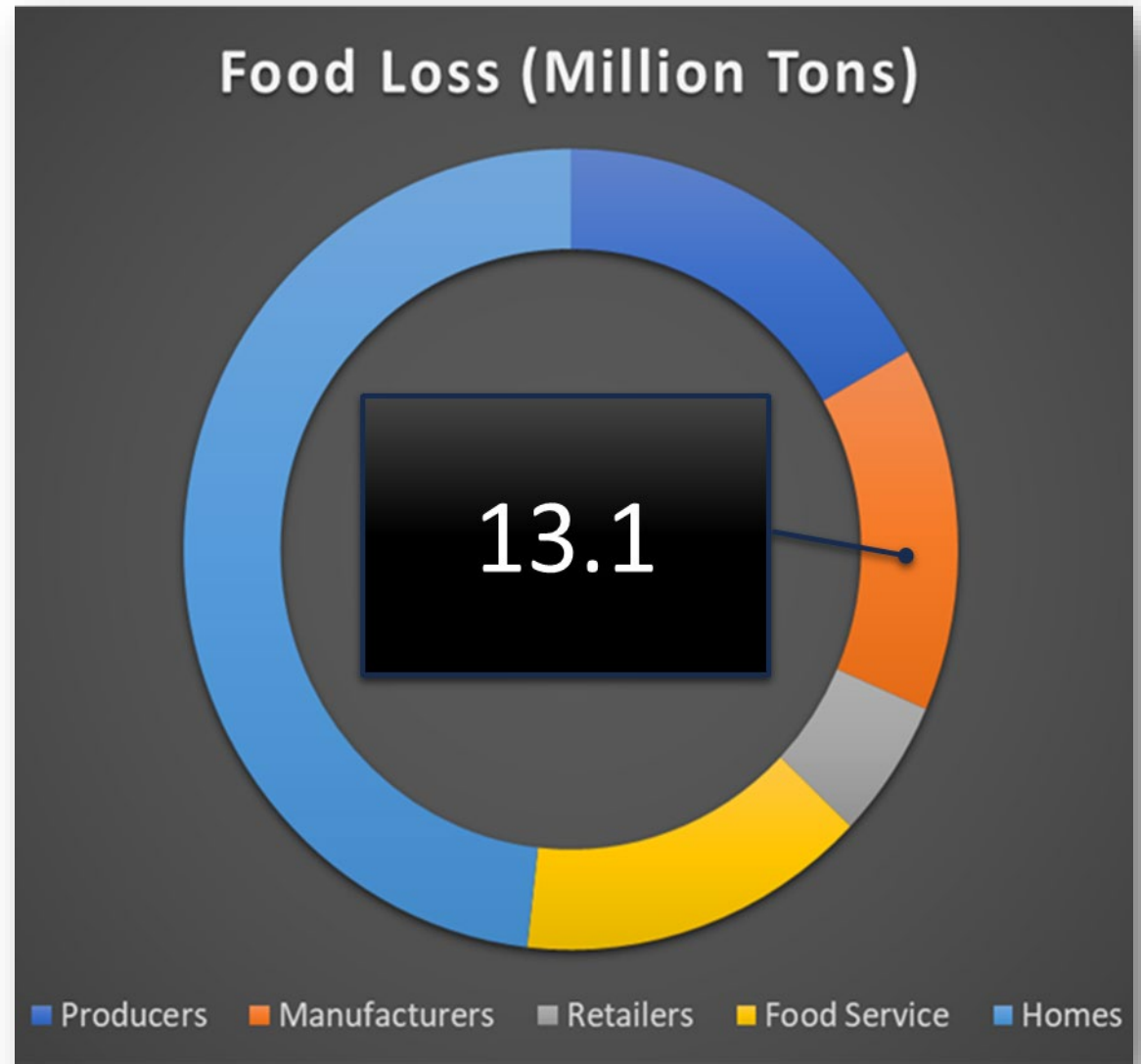
Labor Shortages



# Food Loss from Manufacturers

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- Waste by-products from processing (stems, peels, bones, etc.)
- Waste from switching production lines to make different products



# Food Loss at Retailers

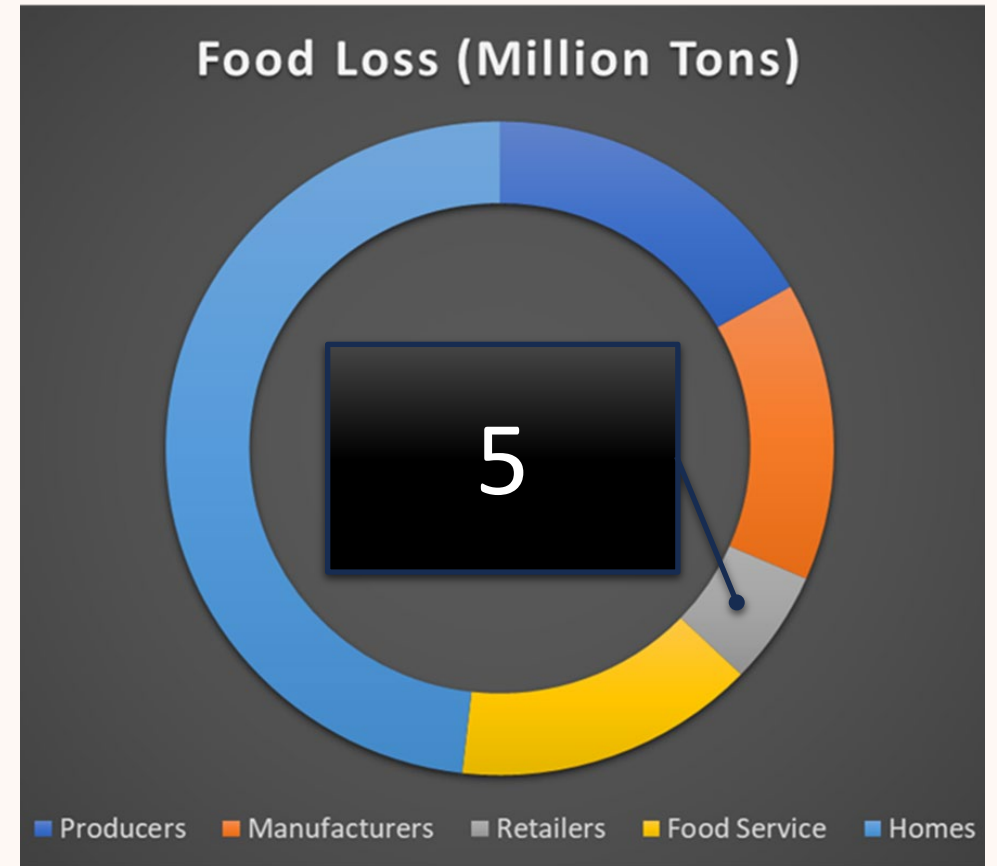


## Retailers

High customer standards for freshness,  
quality & variety

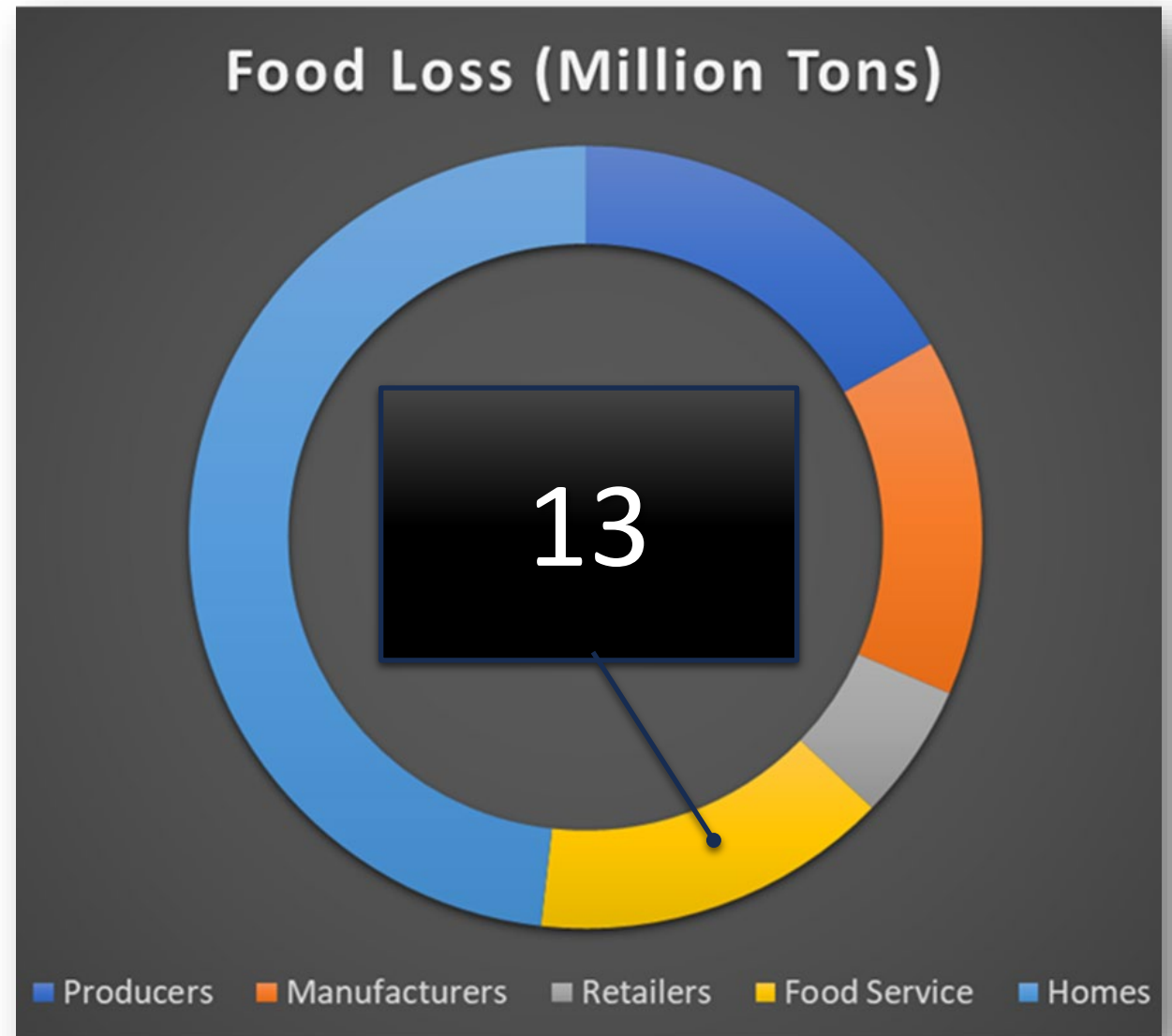
Inefficiencies in inventory management

Date label concerns



# Food Loss at Food Service Areas

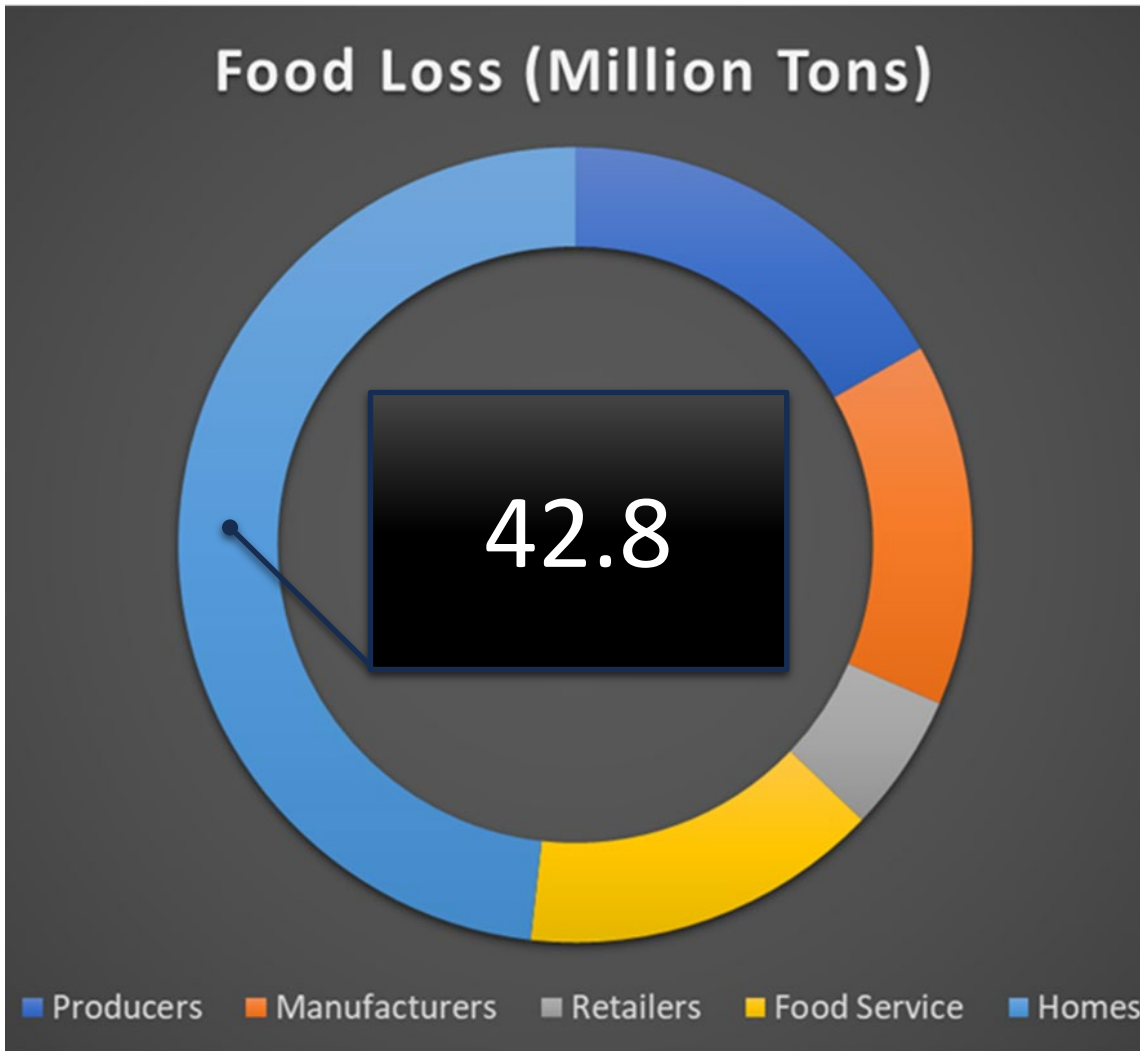
- Difficulty forecasting demand
- Improper storage
- Inefficient preparation techniques
- Plate waste from customers
- Portion sizes





# Food Loss in Homes

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- Lack of planning
- Buying in bulk because it's a "good deal"
- Misunderstanding storage requirements and date labels

Over 88 Million Tons of surplus food generated in 2022 (Source: ReFED)

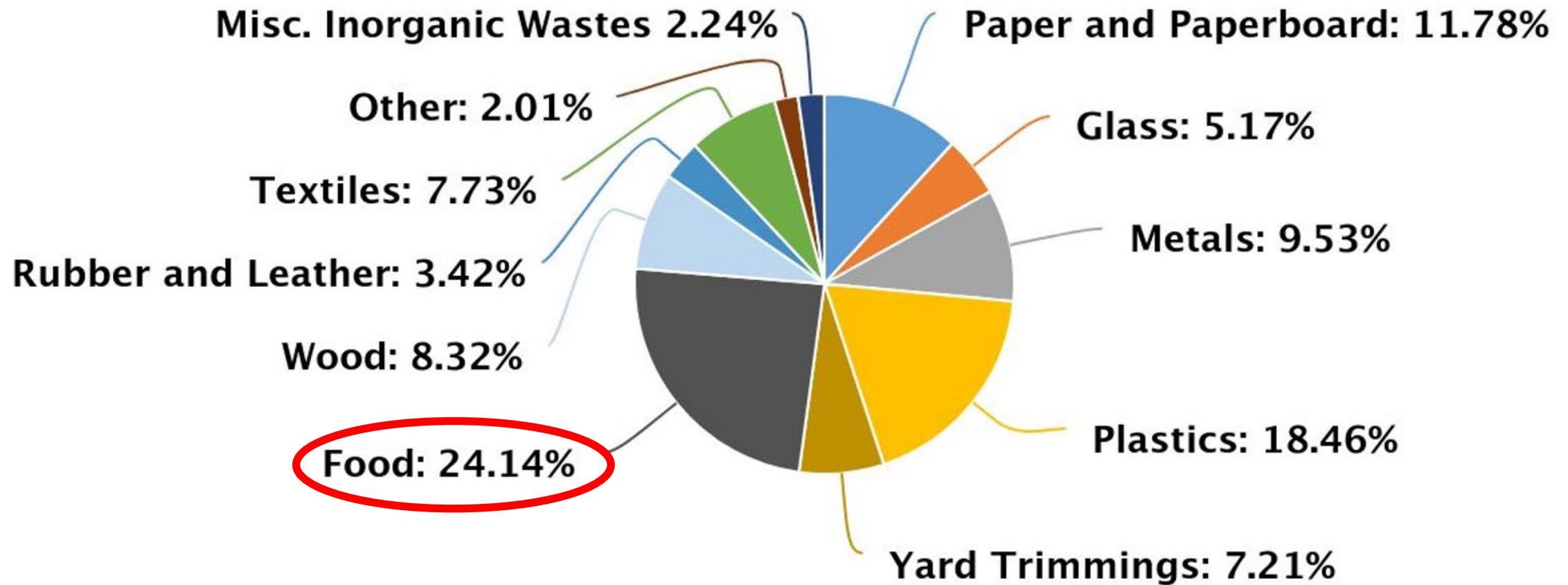
1.83 Million Tons Donated

9.3 Million Tons Recycled

77.6 Million Tons Wasted  
(Landfills, Incinerators,  
Sewer)

Meanwhile, 12% of U.S. households experienced food insecurity in 2022  
(Source: USDA)

# Breakdown of Municipal Solid Waste (MSW) Landfilled Nationwide, 2018



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# Impacts of Surplus Food

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Uneaten food represents a huge waste of energy & resources

- Land
- Water
- Transportation
- Preparation/processing
- Refrigeration



# The Food We Don't Eat Represents...



6.1% of total U.S.  
greenhouse gas  
emissions



22% of total fresh water  
use

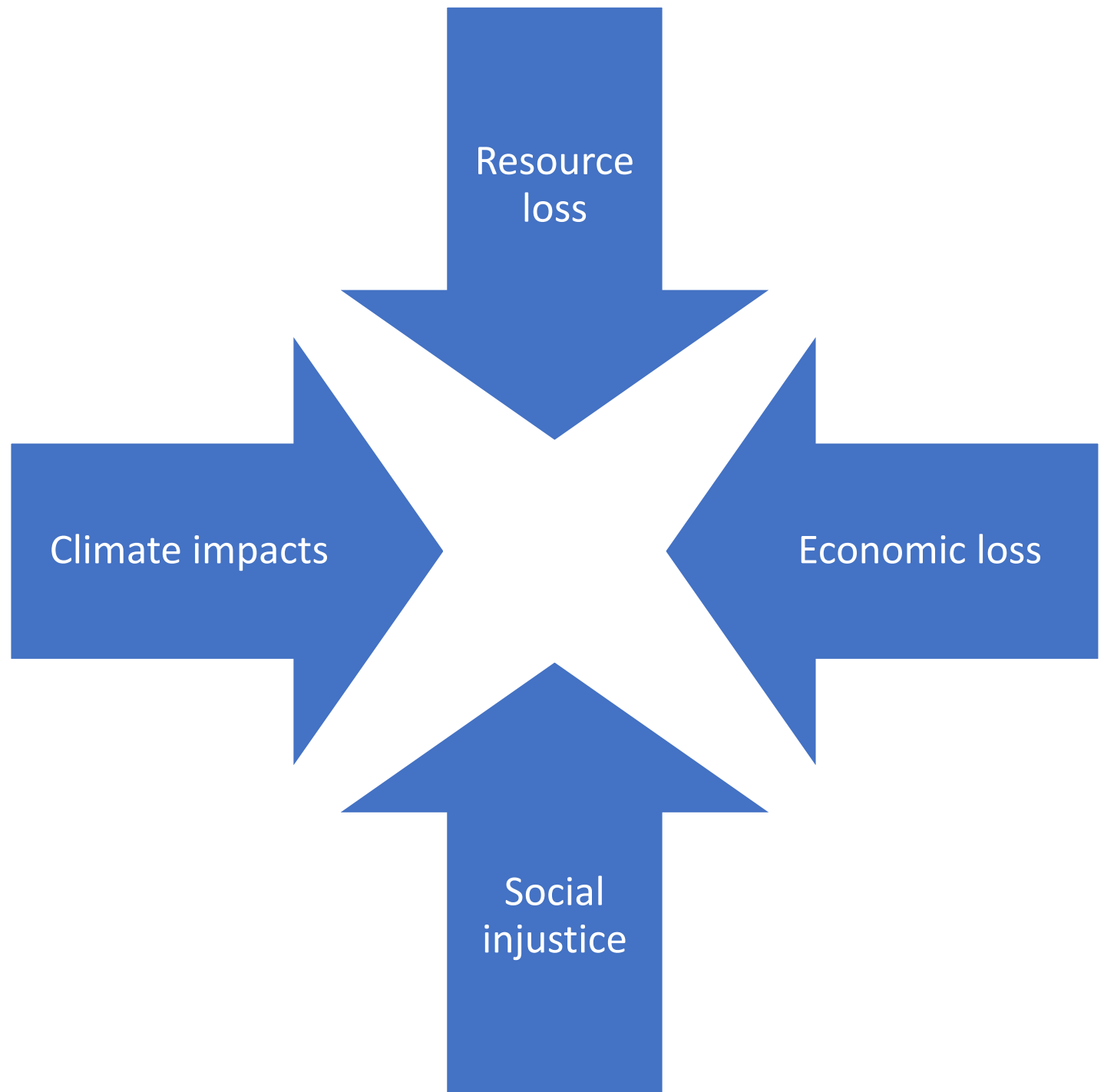


16% of cropland



\$473 billion total costs to  
producers, retailers,  
consumers

Food waste  
is a multi-  
faceted  
problem



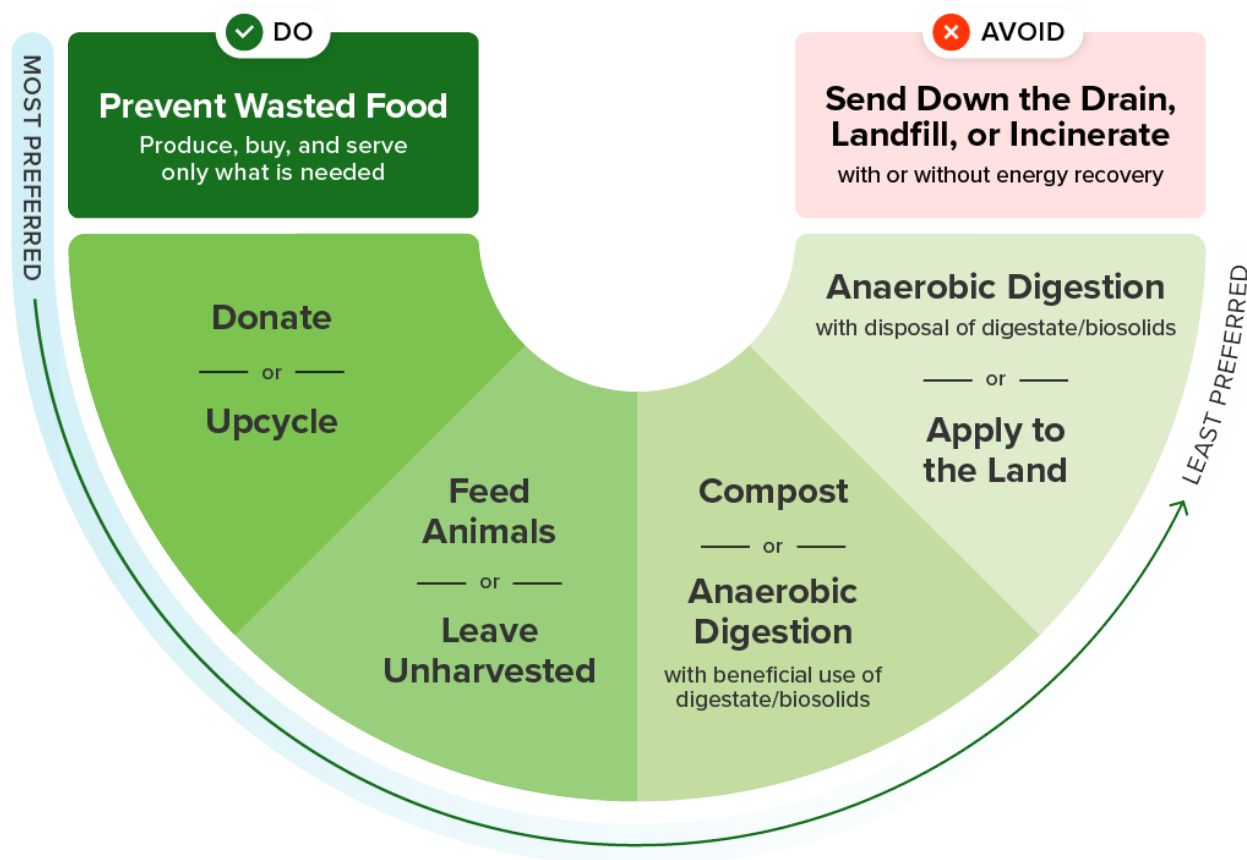
# Managing the Problem...





# Wasted Food Scale

How to reduce the environmental impacts of wasted food



October 2023



A large, solid orange oval shape that serves as the background for the text.

Questions?

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# Resources

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[ReFED Food Waste Overview](#)

[USDA Household Food Security in the United States 2022](#)

[EPA Facts & Figures – MSW Landfilled 2018](#)

[EPA Quantifying Methane Emissions from Landfilled Food Waste](#)

[U.S. 2030 Food Loss and Waste Reduction Goal](#)

[EPA Wasted Food Scale](#)

[2022 New Hampshire Solid Waste Management Plan](#)

[New Hampshire Food Waste Disposal Ban \(RSA 149-M:27, V.\)](#)



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# What's the Big Deal About Wasted Food: Part 1

*Kristine Ellsworth*

*Organics Reduction and Recycling Section*

*NYS Department of Environmental Conservation*

September 17, 2024

## NYS Department of Environmental Conservation Organics Reduction & Recycling Section

Regulate and promote the diversion of organics (wasted food, yard waste, biosolids, food processing waste, etc.) from disposal to beneficial uses.

- Regulatory Oversight & Technical Assistance
- Policy Implementation & Legislative Advocacy
- Funding Programs
- Outreach & Education

The Organics Reduction & Recycling Team (based in Albany, NY)

- Sally Rowland (Section Supervisor)
- Kristine Ellsworth
- Nasibah Elmi
- Chris Glander
- Molly Trembley
- Miranda Wolf

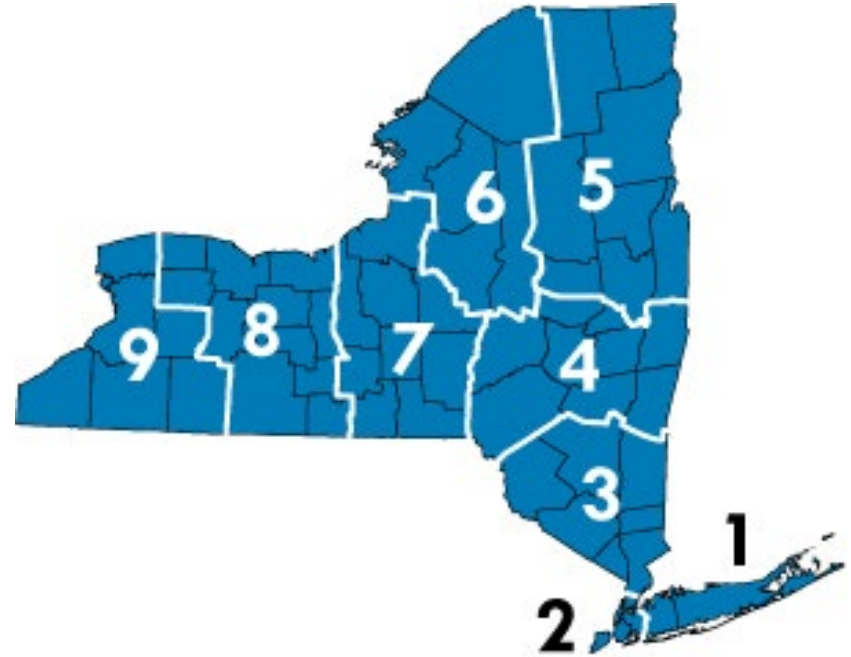




# Regional Assistance

## Regional Staff

- Inspections
- Authorization of registrations and permits
- Questions, Complaints
- Site-specific questions



# What is an Organics Diversion Mandate?

Requires entities of a certain size to divert their wasted food from disposal

## Variables

- Generator minimum requirements (one time or tiered/phased in)
- Prioritization of Donation
- Exemptions
- Waivers
- Mileage Requirement to Recycling Facility

Can exist at the state and/or local level



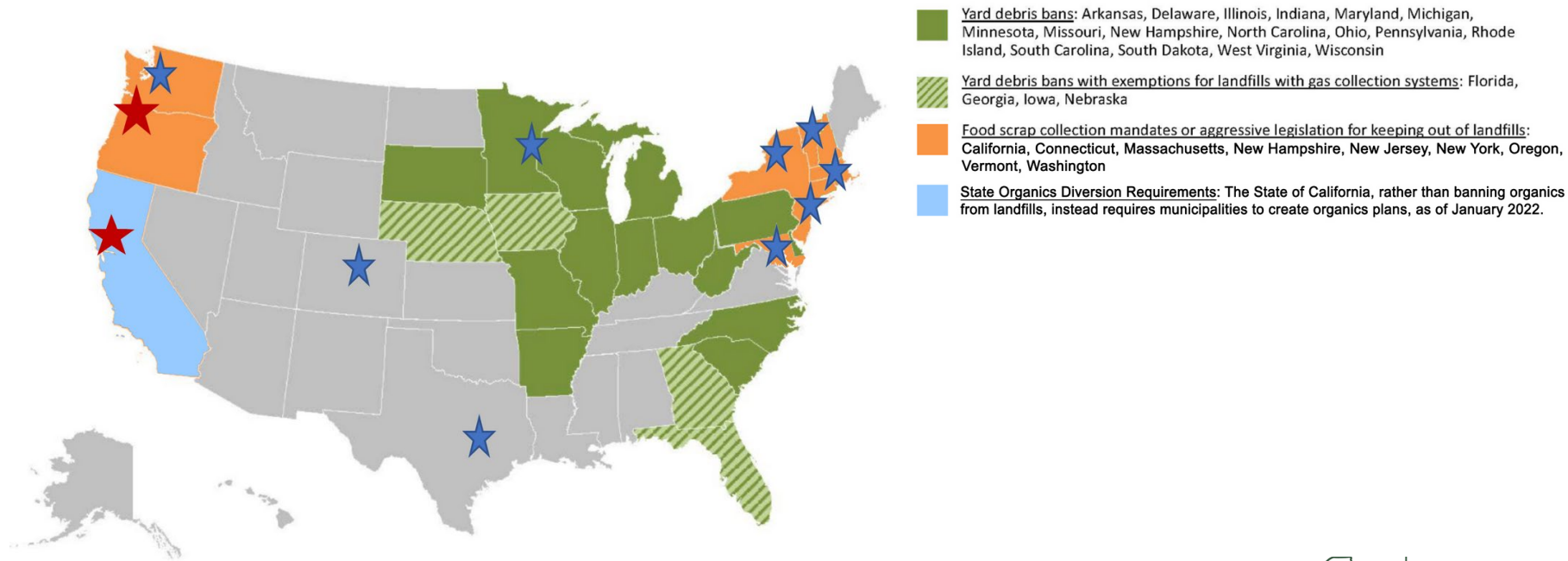
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# What is Driving Organics Diversion Mandates?

- Decreasing Landfill Capacity
- Supporting Growth of the Organics Recycling Industry
  - Donation Important Too!
- Goals and Actions set forth by
  - Climate Plans
  - Solid Waste Management Plans
  - Business Sustainability Plans



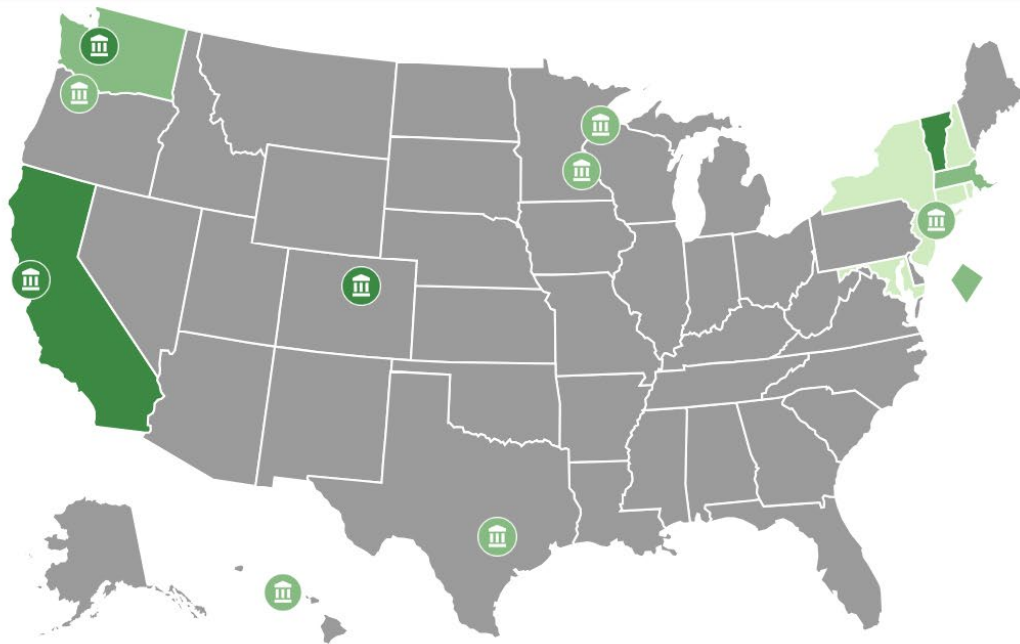
# USCC State and City Organics Mandates - 2023



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# ReFed Policy Finder



STATES AND MUNICIPALITIES THAT HAVE ORGANIC WASTE BANS & WASTE RECYCLING LAWS

## STATES



## RESCUE POLICY

### RECYCLING POLICY

Increased food scrap recycling can be incentivized by these state and local policies.

#### Best-practice Policies

##### Animal Feed

Reveal state policies that hinder food waste recycling.

[View Animal Feed categories](#)

##### Organic Waste Bans & Waste Recycling Laws

Reveal states and municipalities that have enacted Organic Waste Bans & Waste Recycling Laws.

[View Organic Waste Bans & Waste Recycling Laws categories](#)

##### No Policy

No organics disposal bans or mandatory organics recycling laws for food waste have been enacted, and there is no financial incentive structure to encourage food donation or waste diversion.

##### Weak Policy

Organic waste bans or mandatory organics recycling laws have been enacted but are ineffective due to distance exemptions, limited scope, and/or lack of guidance.

##### Moderate Policy

Organic waste bans or mandatory recycling laws are imposed on select commercial generators, with few exemptions.

##### Strong Policy

Organic waste bans or mandatory recycling laws for food waste are enacted and enforced for all commercial generators and all individuals with few exceptions.

# Supporting a Successful Implementation

- Outreach
- Grants
- Technical Assistance
- Enforcement
- Reporting Requirements

Audience: Generators & Organics  
Recyclers

Allies: local governments, waste related  
associations, community based  
sustainability or climate groups, etc.



# Food Donation & Food Scraps Recycling Law

As of January 1, 2022, businesses and institutions that generate an annual average of two tons of wasted food per week or more must...

1. donate excess edible food to the maximum extent practicable; and
2. recycle all remaining food scraps if they are within 25 miles of an organics recycler (composting facility, anaerobic digester, etc.).

## Exclusions:

- Hospitals
- Nursing Homes
- Adult Care Facilities
- Elementary and secondary schools
- New York City ([local law 146](#))
- Generators serviced by a mixed waste recycler (Delaware County)



# Designated Food Scraps Generators

Year	Number of Establishments Required to Comply	Required to Donate	Required to Recycle
2022	874	874	284
2023	1,076	1,076	389
2024	1,145	1,145	451

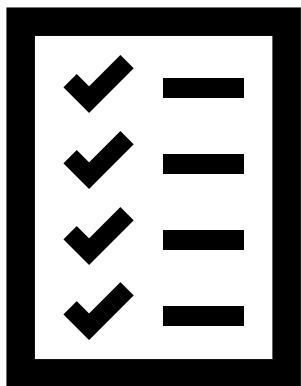
Note: Some of these establishments already have robust donation programs, are recycling their food scraps, employing waste reduction initiatives, etc.

2022: 32.5% Required to Recycle  
2023: 36.2% Required to Recycle  
2024: 39.3% Required to Recycle



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# Inspections & Reporting



- Approve less than 30 wavier petitions per year
- Spot inspections (performed by DEC) at businesses and institutions
- Working with businesses to ensure they understand the law and their requirements under the law
- Businesses and institutions required to submit annual report to DEC by March 1 annually
- DEC must submit report to Governor and legislature on implementation of law on an annual basis





# Feeding NYS

## Free Technical Assistance

- Setting up a donation program
- Finding a food bank or local food rescue organization to partner with
- Understanding food safety practices when donating

Onboarding new businesses required to donate

Working with businesses who are already donating to expand what they are donating



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# Feeding NYS – Expanding Donation Networks

Backlog of entities who are ready to donate

- Lack of transportation capacity at food banks and food pantries.

\$2 million provided by DEC

- Hire Drivers
- Expand cold storage infrastructure
- Purchase vehicles and equipment (scales, thermometers, etc.)
- Enable partner agencies to do pickups
- Food recovery coordinators



# Center For EcoTechnology – Rethink Food Waste NY

- *\$1 million Awarded, launched August 2022*
- **Free** technical assistance to New York State businesses, and institutions
- **Free** technical assistance to organics recyclers -- composting consultants on hand
- **Five Free** One Day Compost Operator Workshops



**No-Cost Waste Assistance for NY Businesses**

Sign up to have a CET expert provide on-the-spot, no-cost waste assessments and identify opportunities for improved recycling, solutions to surplus food and loss, and other resources.

[wastedfood.cetonline.org/states/new-york](https://wastedfood.cetonline.org/states/new-york)

**Food Recovery & Composting**

**Cost Savings**

**Sustainability Tools**

**CET**  **CENTER FOR ECOTECHNOLOGY**

# Expanding the Law – More Food is Coming!

[S5331A/A5906A](#) – Passed Senate & Assembly – Awaiting Governor's Signature

2 tons or more – 1/1/23 – 12/31/25

1 ton or more – 1/1/26 – 12/31/27

0.5 ton or more – 1/1/2028

Expands recycling requirement from 25 to 50 miles



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# Thank You

Kristine Ellsworth

Organics Reduction &  
Recycling section, NYSDEC

[Kristine.Ellsworth@dec.ny.gov](mailto:Kristine.Ellsworth@dec.ny.gov)

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# NEWMOA Webinar

Increasing Organics Diversion  
2024



# Agenda:

- Current state of solid waste in MA
- Capacity, Costs, Projections
- Waste audit
- Highest End Use
- Benefits of municipal composting





# The Dirt: Who Is Black Earth Compost?

- Largest dedicated organics fleet in New England (40 trucks), diverting over 350 tons/week
- Combination of hauling and processing = synergies, cost savings, marketing and quality control on feedstock



- Designed/built/operating 4 compost sites: 2 municipal and one farm based
- Compost material from 40,000 residents and 800 commercial customers across 125 towns in Massachusetts and Rhode Island

# 2022 MassDEP Solid Waste Update

Table 3 Solid Waste Disposal 2018-2021 (all data in tons)						
			2018	2019	2020	2021
<b>Disposal</b>			<b>5,660,000</b>	<b>5,510,000</b>	<b>5,920,000</b>	<b>6,220,000</b>
	<b>Landfill</b>		<b>1,270,000</b>	880,000	660,000	<b>600,000</b>
		MSW	1,190,000	820,000	570,000	490,000
		C&D	0	0	-	-
		Other	70,000	60,000	90,000	110,000
	<b>Combustion</b>		<b>3,200,000</b>	<b>2,990,000</b>	<b>3,040,000</b>	<b>3,060,000</b>
		MSW	3,180,000	2,970,000	3,020,000	3,060,000
		Non-MSW	20,000	10,000	20,000	10,000
	<b>Net Exports</b>		<b>1,190,000</b>	<b>1,640,000</b>	<b>2,220,000</b>	<b>2,570,000</b>
		Exports	1,820,000	1,970,000	2,470,000	2,920,000
		MSW	750,000	820,000	1,040,000	1,050,000
		Non-MSW	1,070,000	1,140,000	1,430,000	1,870,000
		Imports	630,000	330,000	250,000	360,000
		MSW	610,000	310,000	240,000	300,000
		Non-MSW	20,000	20,000	10,000	50,000

## Massachusetts: Last landfill scheduled to close 2033

<b>Table 7A: Ash Landfills Anticipated Capacity</b>	
<b>Landfill</b>	<b>Projected Closure Year</b>
Bondi's Island, Springfield	2030 <sup>1</sup>
Peabody	2033
Wheelabrator Saugus	2026
Wheelabrator Shrewsbury	2028

*2022 Solid Waste Data Update, November 2023, MassDEP*

## Rhode Island: Johnston Landfill to close 2034–2043?

Municipalities generate approximately 300,000 tons/annually or 45% of current disposal volumes at RIRRC.

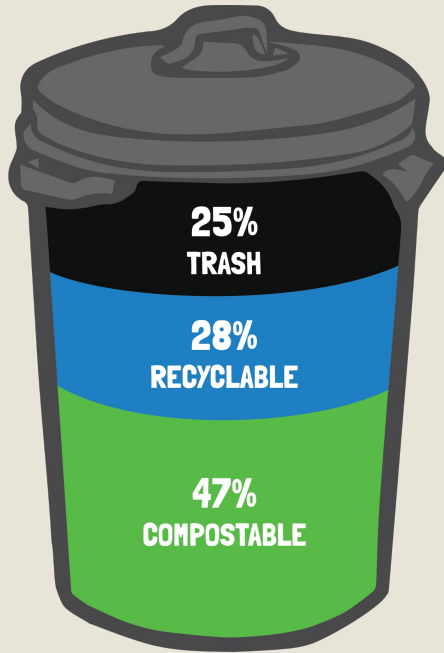
Commercials generate the other 55%. In response, RIRRC has increased commercial tipping fees driving businesses to dispose of their waste in Massachusetts.

Fix the Waste,  
Fix the Soil,  
Fix the Food,  
Fix our Health,  
While Sequestering Carbon.

It takes a decade, start the  
regenerative cycle now.



## Waste Audit: 47% Organic Material



Results from 200 households in our 2022 audit show that up to 47% of the waste stream could have been composted with Black Earth.

## What Is Compostable?

- All foods scraps including meat, dairy, bones, soiled paper products
- Compostable serviceware must meet one of these certifications including BPI, CMA and TUV



**COMPOSTABLE**  
IN INDUSTRIAL FACILITIES

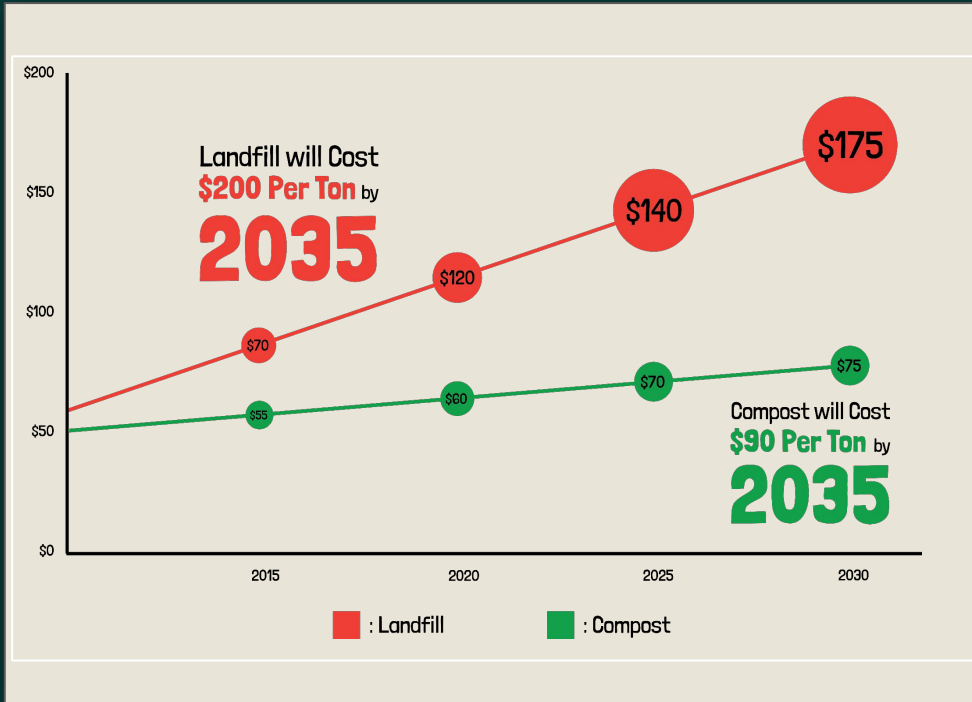
Check locally, as these do not exist in many communities. Not suitable for backyard composting. CERT # SAMPLE



**TÜV**  
AUSTRIA  
INDUSTRIAL



# Why Should Municipalities Compost?



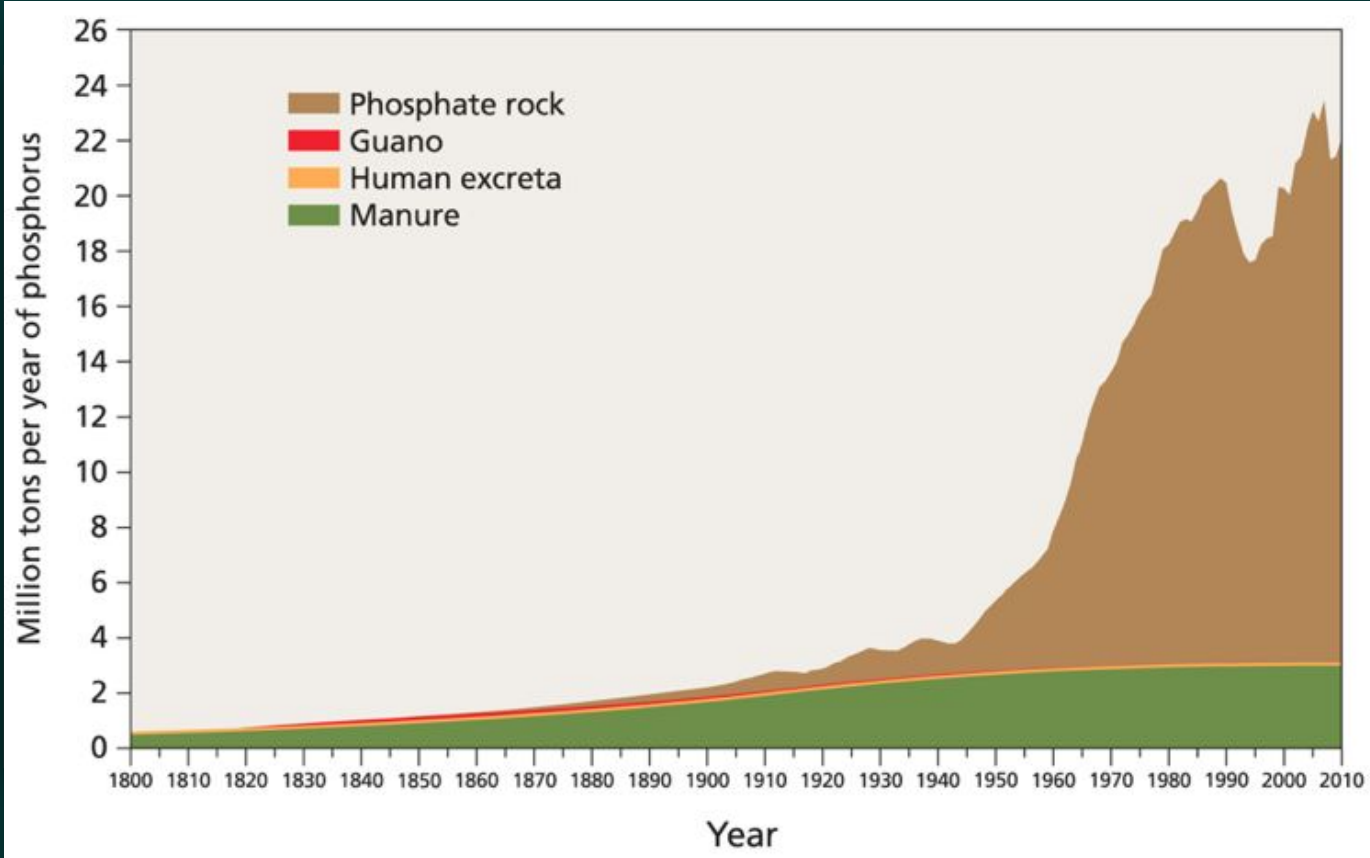
## Escalating Waste Costs

- Most of region facing a capacity crunch, tipping fees continue to rise
- We are shipping our waste as far as Alabama on rail lines
- Organics bans coming down the pipeline, down to half a ton/week now, **a ban on all municipal solid waste in MassDEP draft plan for 2030**
- Diverting organics from the waste stream is lowest hanging fruit, **1/2 of the waste**

## Composting Benefits our Communities

- Carbon capturing process that creates a nutrient rich soil amendment
- Reduces methane emissions via landfill or AD
- Compost increases rainwater soil penetration and retention
- Recycling organic nutrients decreases reliance on fertilizer
- Promotes decentralized local food production

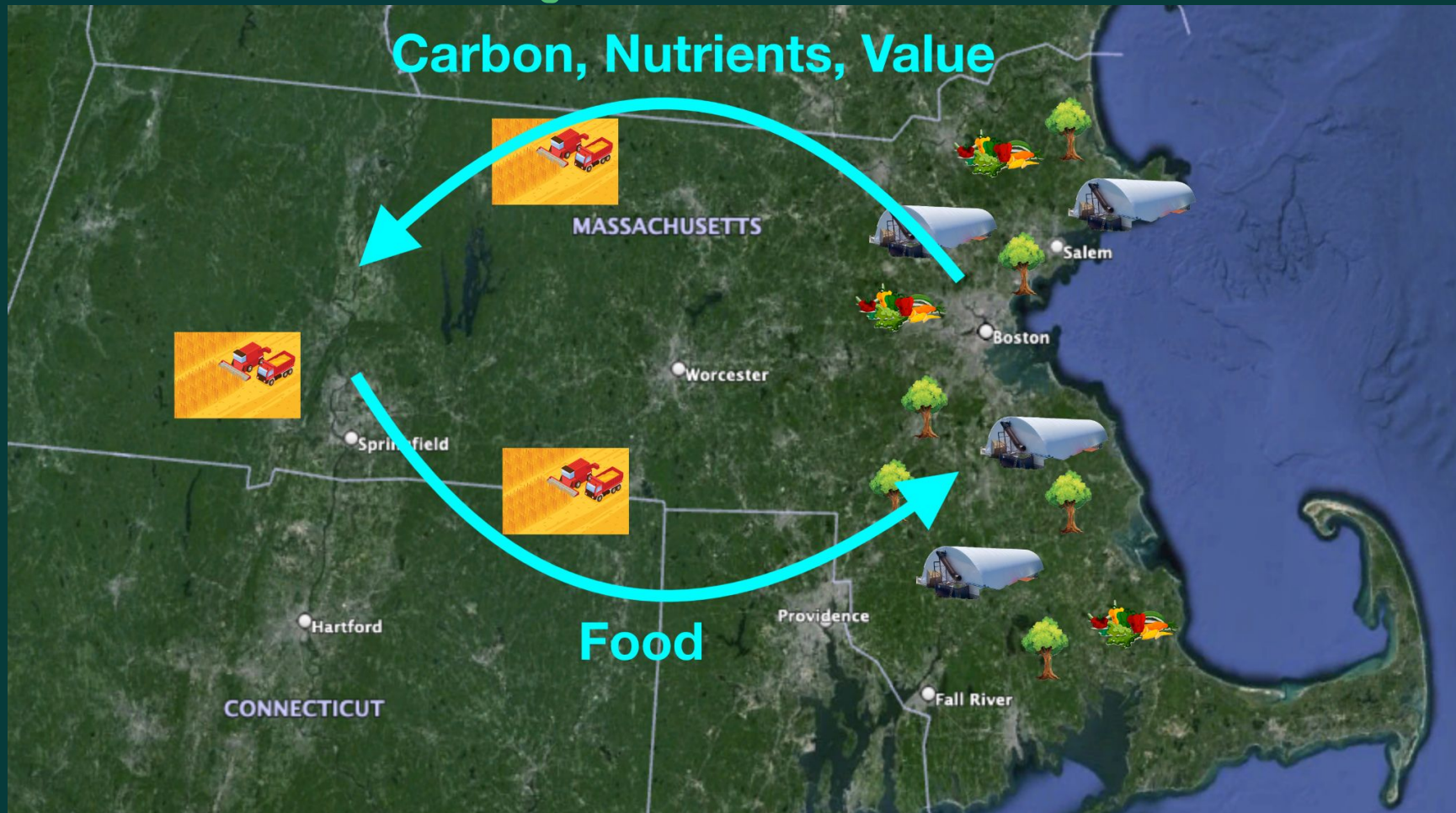
# The purpose of recycling food waste



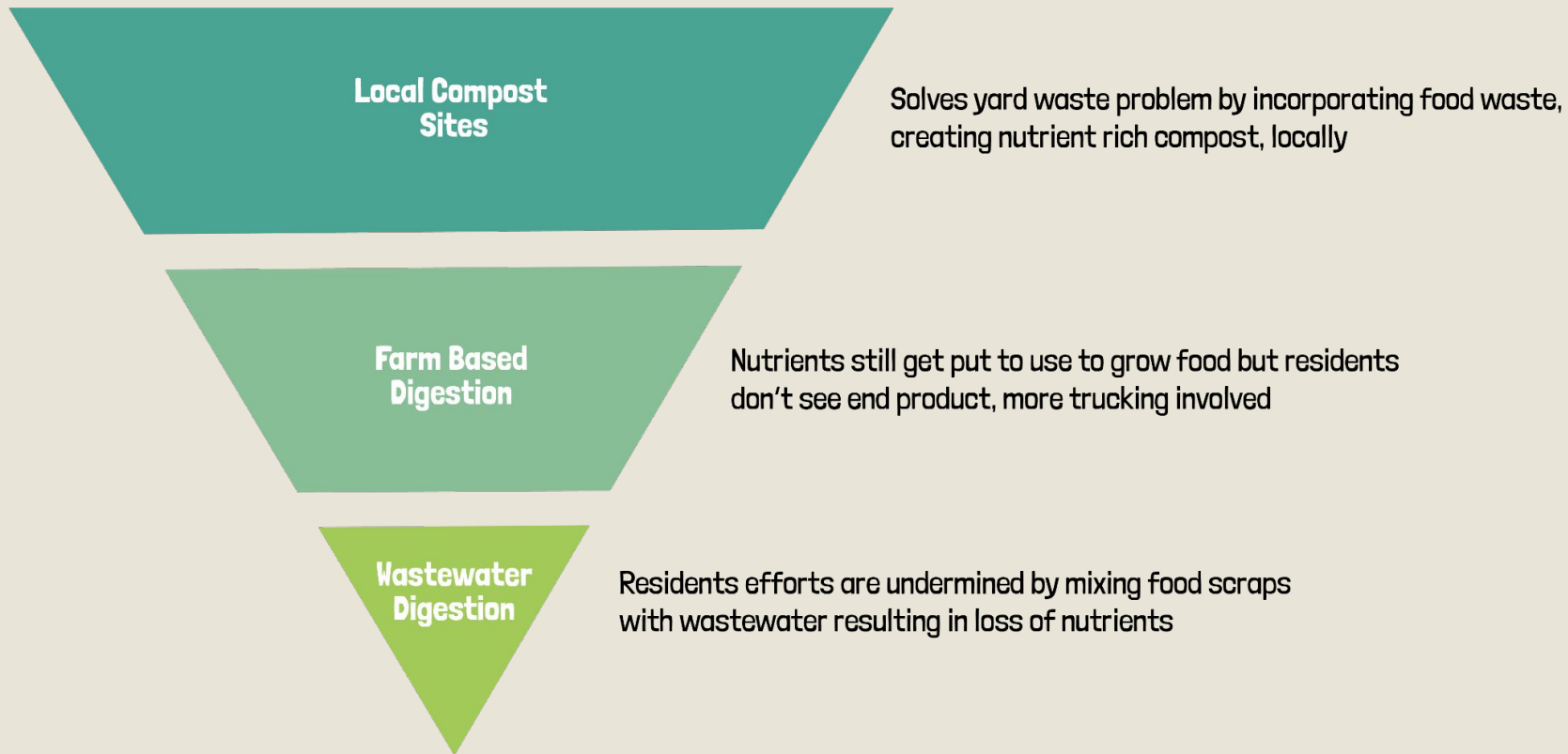


# Making Massachusetts resilient

Carbon, Nutrients, Value



# Municipal Organic Waste Hierarchy



# Austrian Model: Decentralized Composting is the Ideal

## Decentralized Composting is a Virtuous Loop

- In 1992 the last landfills closed, forcing organics separation to happen. 40 years ahead of MA, which is in a tight spot
- All rural and suburban areas are compost based, a few digesters handle the largest cities
- 0-5% contamination: clean for composting. 5-12%: needs to be presorted. Over 12%: incineration and fined
- 420 compost sites located on farms: people respect the program, keep stream clean, farmers grow food with it, reduced/eliminated fertilizer use, reduces runoff problems
- **healthier soil, healthier food, cleaner water, less waste, more pride**





**Compost, Grow, Eat... (repeat)**

