

Compost Facilities in IL

Operations and Challenges



presented by:

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Overview



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IFSC
ILLINOIS FOOD SCRAP
& COMPOSTING COALITION

Overview



Operating a licensed compost facility in Illinois involves several key steps:

- **Managing incoming materials**
- **Handling and processing materials**
 - Windrow method
 - ASP / CASP techniques
 - In-Vessel systems
- **Delivering compost to final markets**



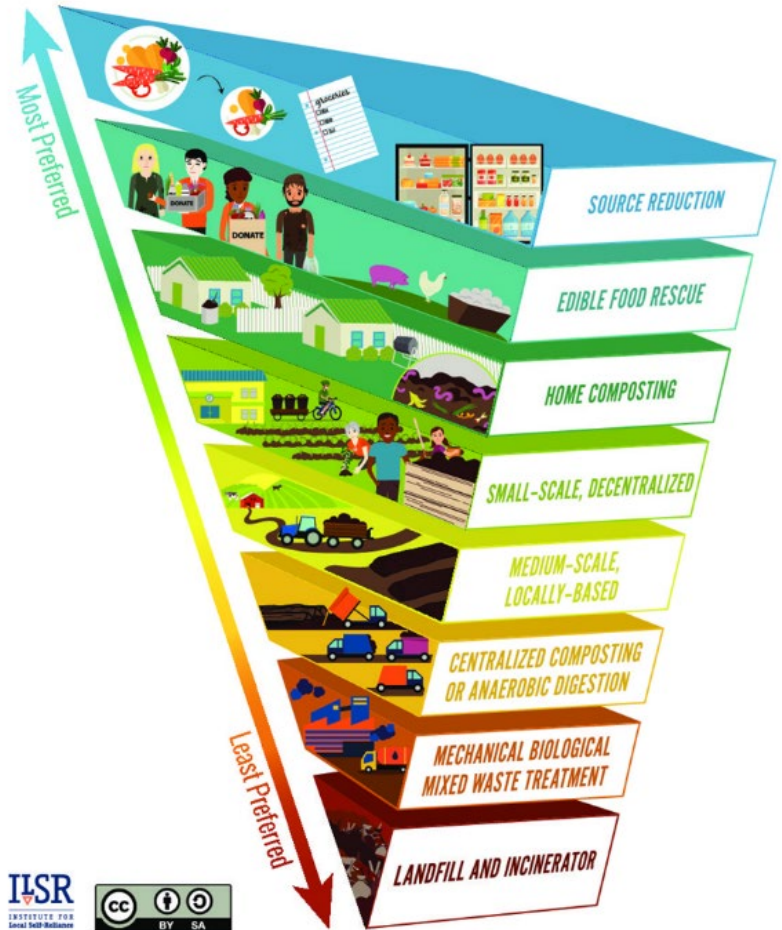
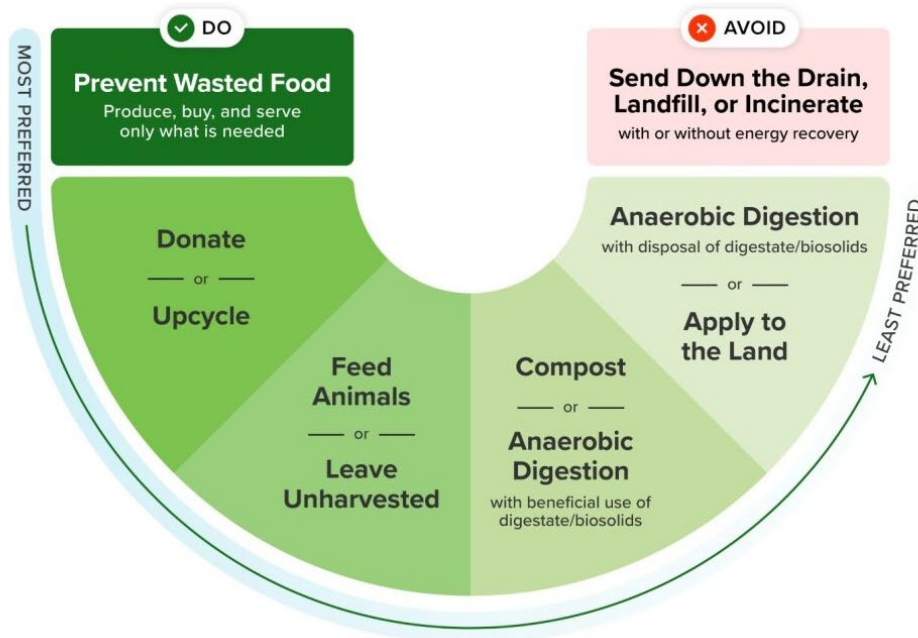
It is essential to recognize the challenges encountered in managing a compost facility.

Organics Management



Wasted Food Scale

How to reduce the environmental impacts of wasted food



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LANDSCAPE

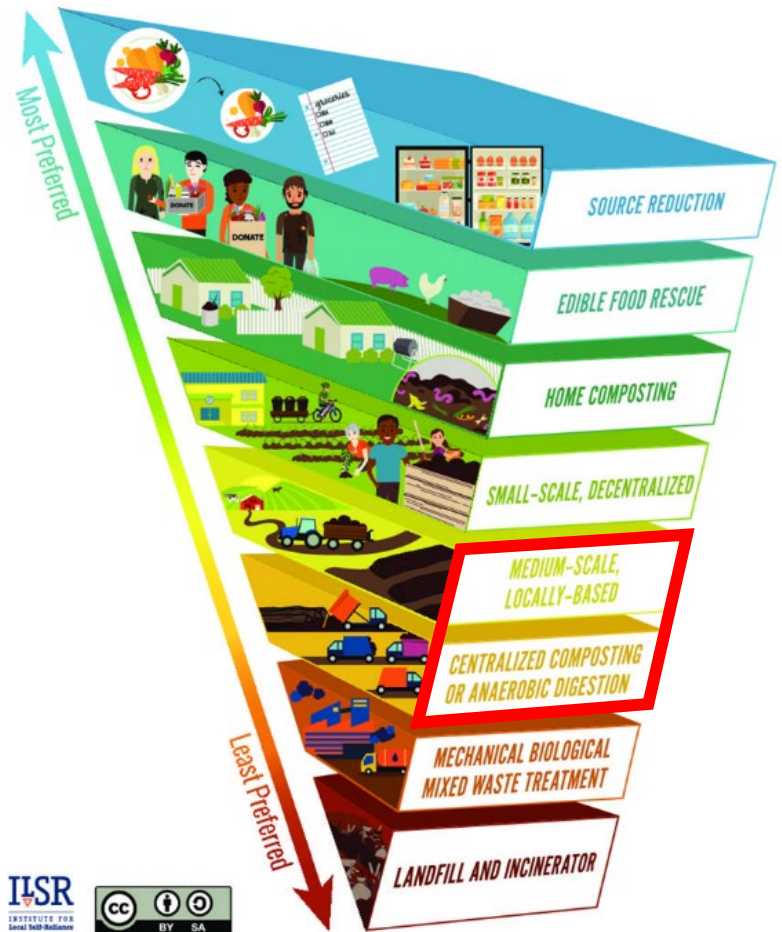
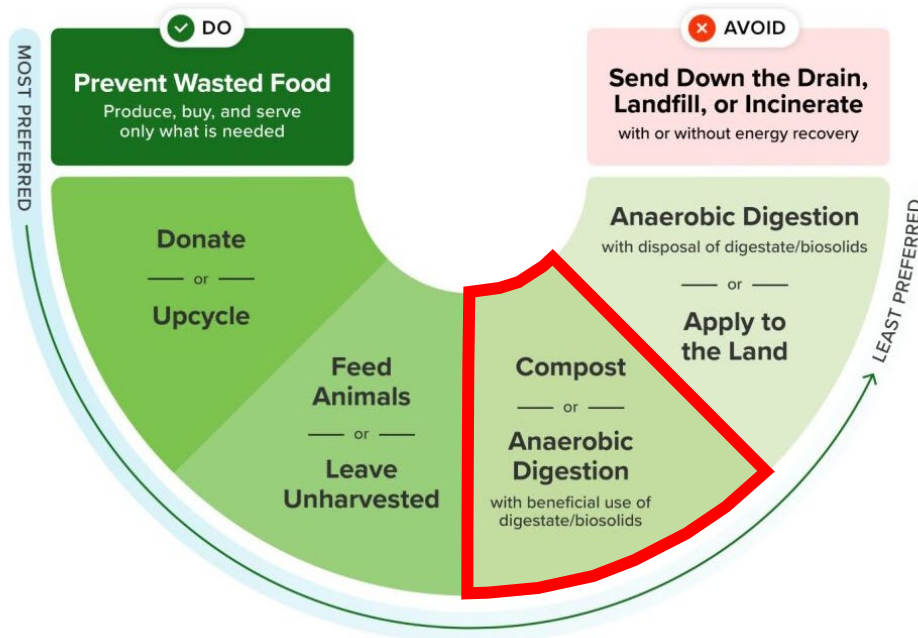


Organics Management



Wasted Food Scale

How to reduce the environmental impacts of wasted food



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Compost Basics

Composting is nature's circular process of growth and decomposition

Composting involves the controlled breakdown of organic matter by microorganisms in the presence of oxygen. The end result, known as compost, serves as a valuable and nutrient-rich addition to soil.



Compost Mechanics

To support bacterial growth, compost should have a mix of both **nitrogen-rich** and **carbon-rich** materials in a roughly 1:3 ratio

Generally, materials that are **green and moist** are high in nitrogen and those that are **brown and dry** are high in carbon.

1 part nitrogen-rich
(greens)



3 parts carbon-rich (browns)



Source: EPA and University of Nebraska Extension

Incoming Materials

“If it grows, it goes”

Plant and animal material are generally accepted in commercial composting systems.



Incoming Materials

“In doubt? Throw it out”

If you are unsure if an item is compostable, throw it in the landfill!
It is better to throw something away than risk contaminating compost.



IL Composting Regulations

35 IAC Part 830 Regulations

- Landscape Waste Compost Facility
 - Allows up to 10% additives by volume or more if IEPA approval is achieved.

35 IAC Part 807 Regulations

- Organic Waste Compost Facility
 - Allows for ≥ 10% additives by volume
 - Local Siting Approval is required, with some exemptions
 - Daily cover of incoming material
 - Coordination with IEPA on monitoring (odor, vectors)



Contamination Challenge



Source: Food and Agriculture Organization of the United Nations



Increased additive = Increased contamination

Contamination Challenge

Contamination ends up in the “overs” pile

Overs Pile = Legacy Pile



Overs can be reused but...
garbage is ultimate landfilled

Contamination Challenge

Increasing “**greens**” must correlate with an increase of “**browns**”
and increase in **end market demand**

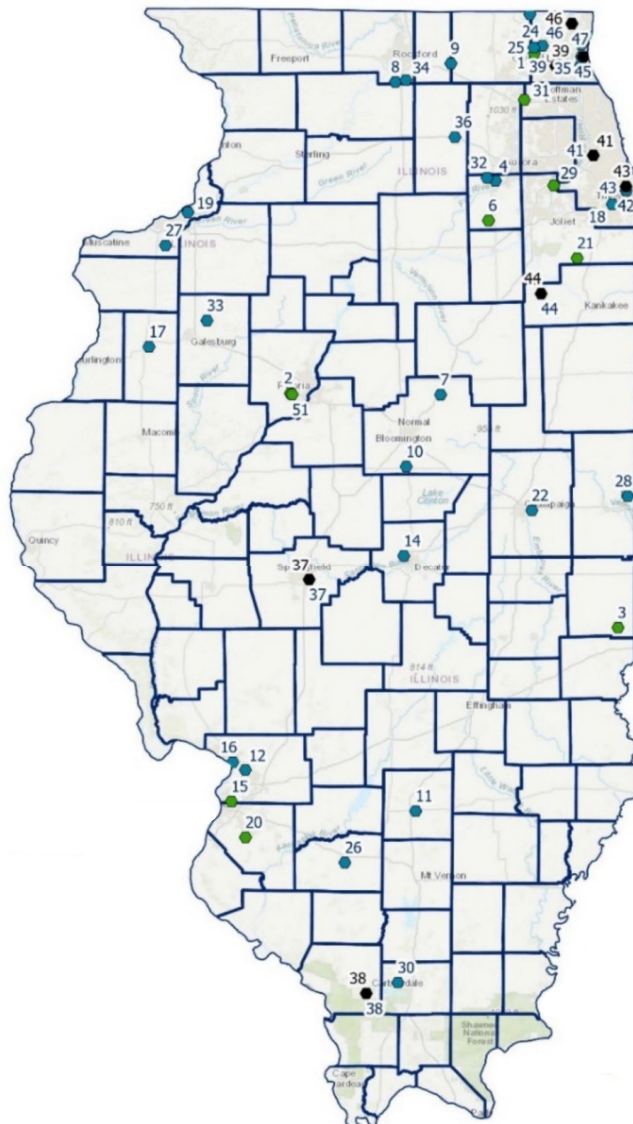
Greens



Browns



Compost Facilities in Illinois



- Windrow method
- ASP / CASP techniques
- In-Vessel systems

Landscape and Food Scraps

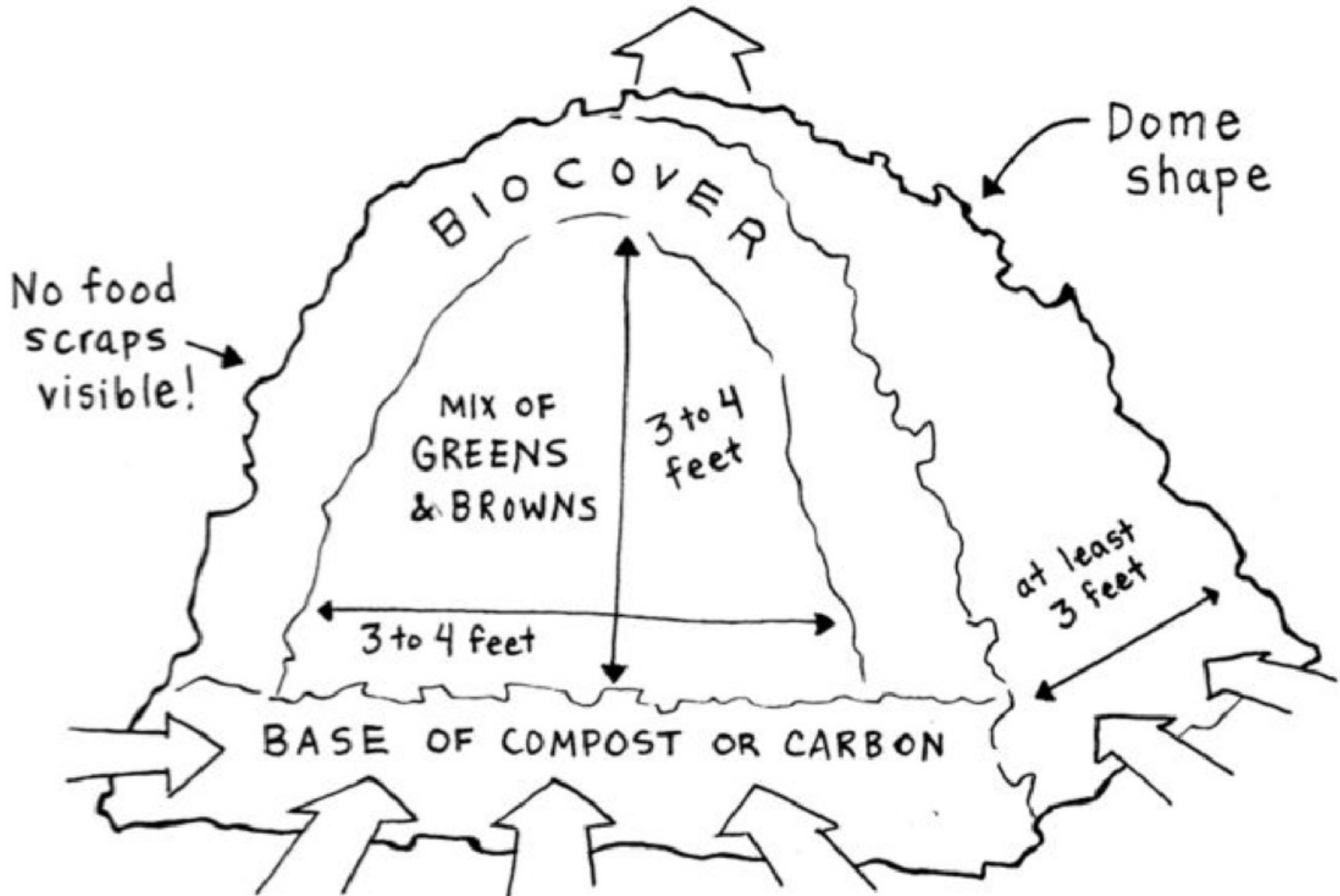
● Landscape Only

● Landscape and Food Scraps

Private Compost Facilities (No Outside Material Accepted)

● Private Compost Facilities (No Outside Material Accepted)

Windrow Method



Windrow Method



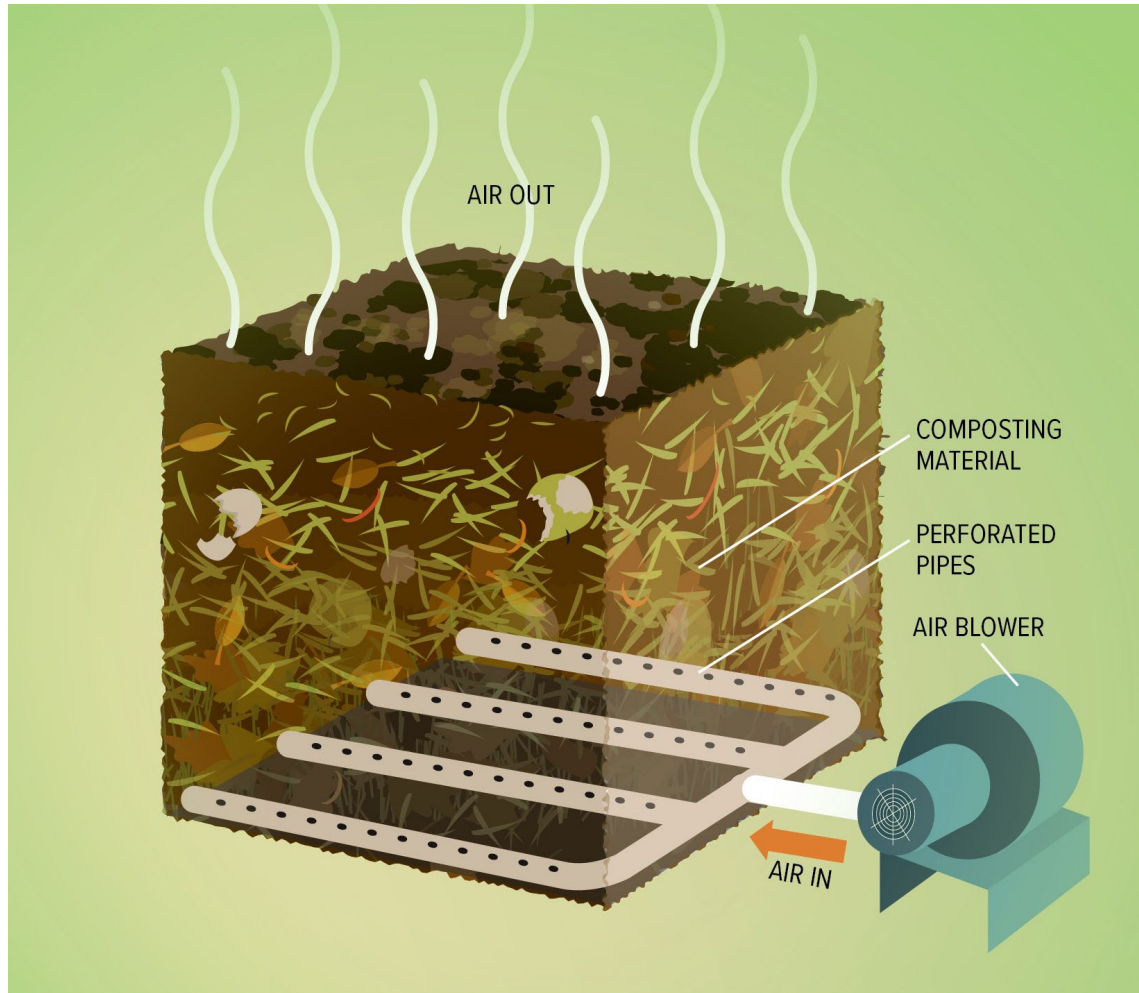
Windrows in Action

Turning the Pile



ASP / CASP Techniques

Aerated Static Pile



ASP / CASP Techniques



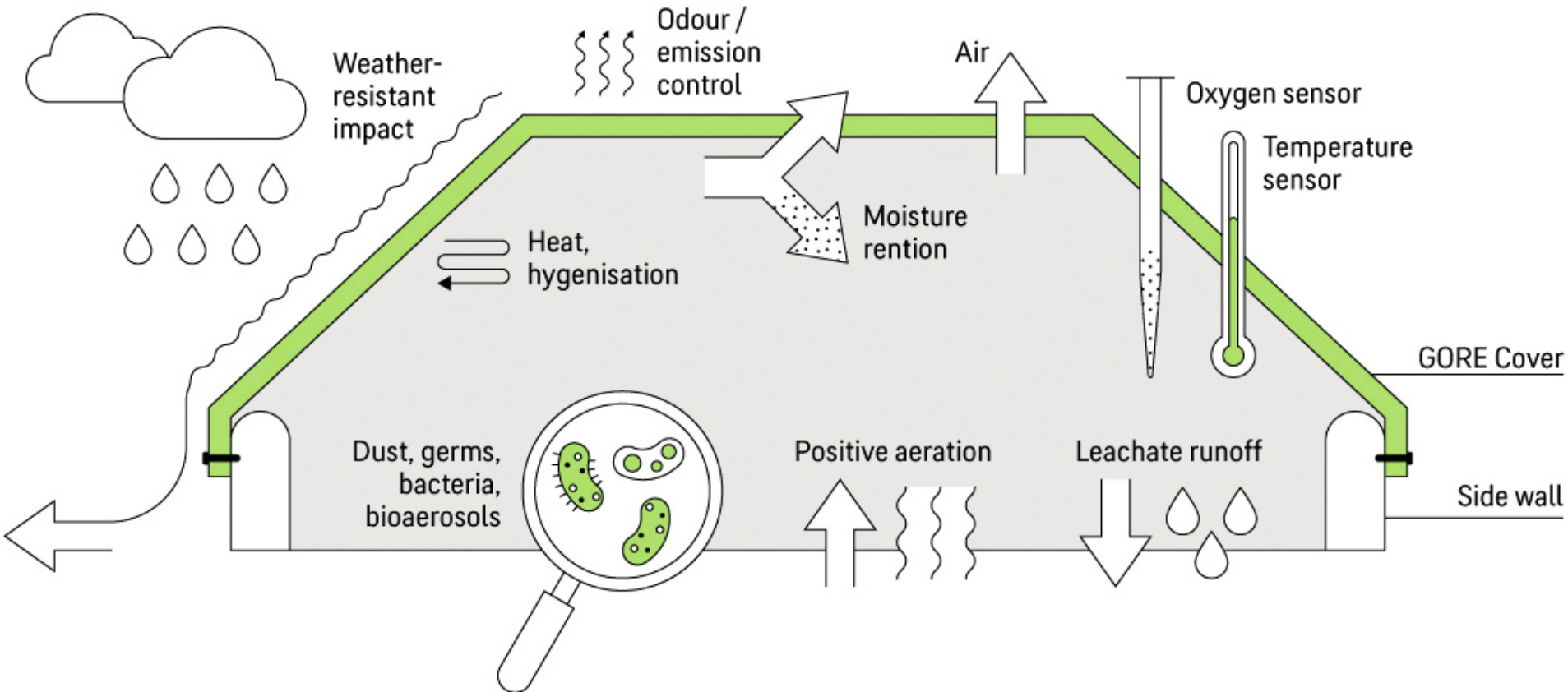
ASP Empty Bunker



ASP in Action

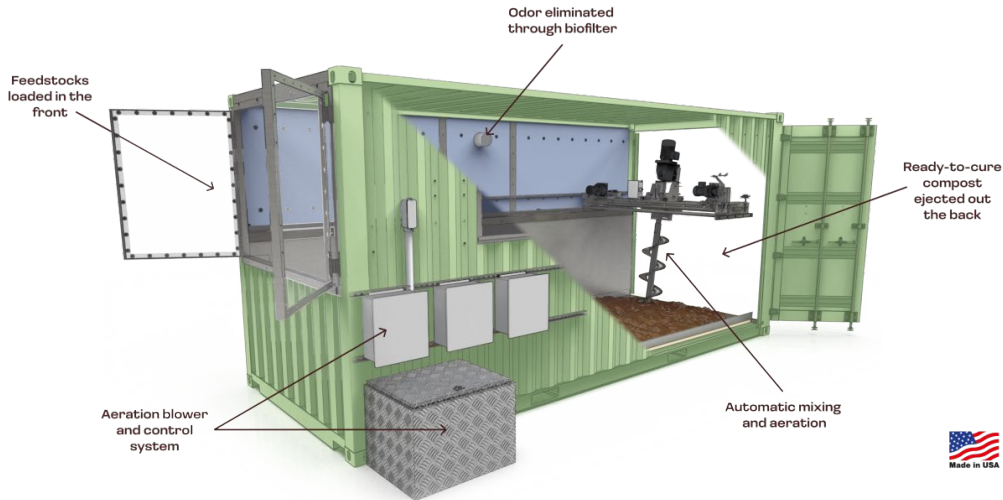
ASP / CASP Techniques

Covered Aerated Static Pile



In-Vessel Systems

Mechanical Processing



Source: Green Mountain Technologies – Earth Flow



Source: Global Composting Solutions - HotRot



Source: BROME 632 unit

Hybrid Systems



Open Windrows

Covered Windrows

ASP

CASP

End Markets Challenge

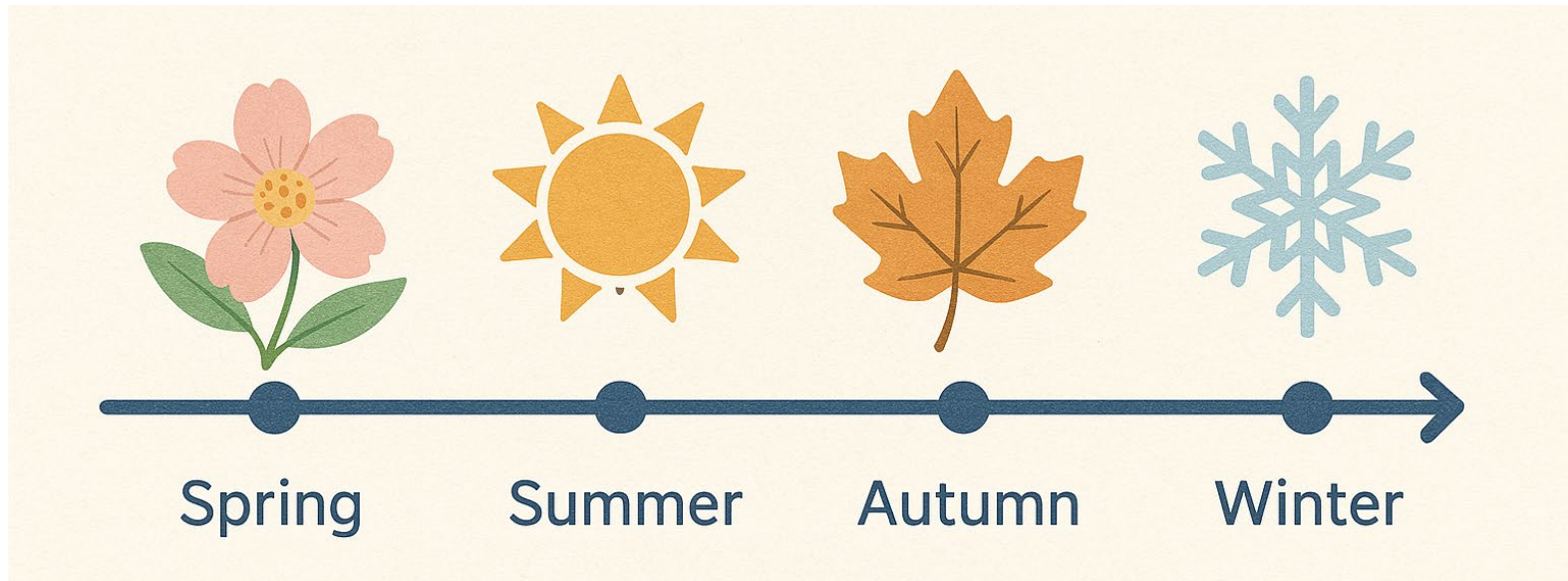
Where does our high-quality compost go?

- Landscapers?
- Road Contractors?
- Nursery Yards?
- Homeowners?
- Farmland?
- Wholesale Manufacturers (Bagging Facilities)
- Park Districts?



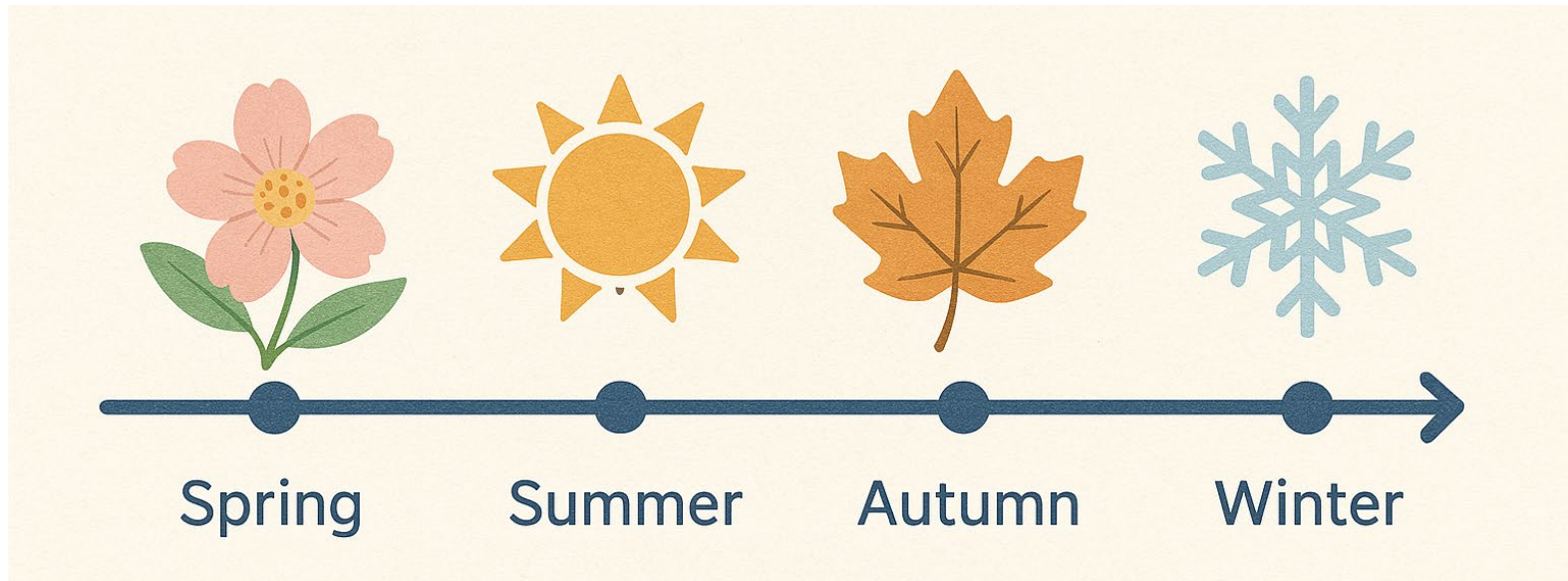
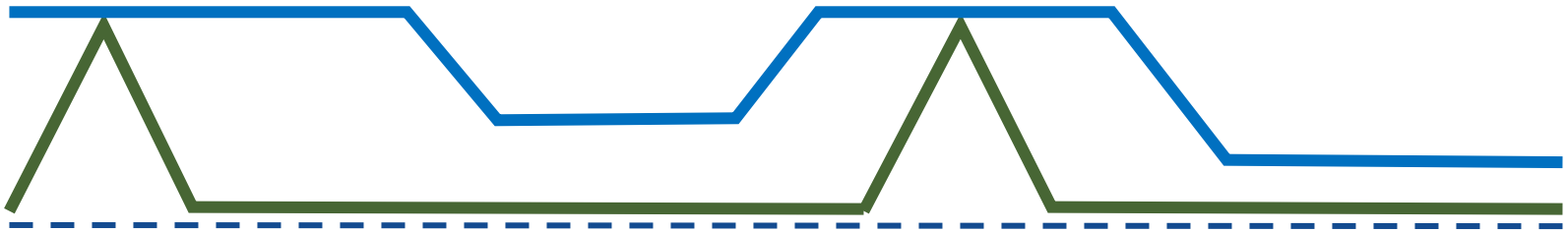
End Markets Challenge

When compost is collected



End Markets Challenge

When compost is applied



End Markets Challenge

How do we grow
consistent end
markets and users of
compost?

End Markets Challenge

- **Value of compost**
- **Education on usage**
- **Collaboration between operators and users**



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Thank you!

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