Putting good ideas to work for a carbon-neutral, flourishing campus

# Sustainable CWRU

State of Composting in NE Ohio – April 12, 2017



case.edu/sustainability

# Panelists

- Erin Kollar, Assistant Director of Sustainability, Case Western Reserve University
- Kathleen Rocco, Education Specialist, Cuyahoga County Solid Waste District
- Ana Locci, PhD, University Farm Director, Adjunct Assistant Professor, Biology, CWRU



### WHAT IS COMPOSTING?

### COMPOST (NOUN) IS DECAYED ORGANIC MATERIAL USED AS A PLANT FERTILIZER

### COMPOST (VERB) THE ACT OF MAKING VEGETABLE MATTER (OR MANURE) INTO COMPOST.





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# WHY SHOULD WE COMPOST?

- 40% OF ALL FOOD IS WASTED
- FOOD THAT IS LANDFILLED IS A MAJOR EMITTER OF METHANE WHEN IT DECOMPOSES (GREENHOUSE GASES, OH NO!)
- COMPOST TURNS FOOD WASTE INTO A COMMODITY
- COMPOST KEEPS THE SOIL HEALTHY
- HEALTHIER, NUTRIENT-RICH SOIL HELPS RETAIN WATER AND STOP RUNOFF
- GOOD SOIL MAKES GOOD FOOD



### HOW DO WE COMPOST?





### Where is our Compost coming from?

- Pre-consumer food scraps Leutner, Fribley, Tomlinson, BRB, Tink
- Post-consumer food scraps
  - Leutner & Fribley
  - Tomlinson, BRB, & Tink
- Residence Halls kitchens within suites and apartments
- Greek Houses
- Offices & Academic buildings
- Events & Parties



#### What does CWRU have to Compost?

- Pre-consumer food scraps fruit, vegetable, meat trimmings
- Post-consumer food scraps
  - Prepared food leftovers
  - Plate scrapings (and banana peels, sandwich crusts, etc)
  - Event food waste
  - Coffee grounds
- "Compostable" service ware
- Yard Waste



### Composting at CWRU is a question of scale!

- The volume & quality of materials we deal with at CWRU cannot be composted in a backyard pile
- Need to work with a commercial composting facility to process our materials
  - Class II EPA certification
  - EPA certification exemption
- IOW We can't do it alone What we're able to do is dependent on the composting picture in the region!



### So what are we composting?

- Pre-consumer food scraps Leutner, Fribley, Tomlinson, BRB & Tink
  - vegetable peels, fruit rinds, limited meat/fish bones
- Limited event wastes \$\$\$
  - Weatherhead Business School graduation celebration
- Yard Waste
  - Grounds department chips & reuses ~300 tons annually



### **Changing Compost Story in NE Ohio**

- 2012 Rosby Resource Recycling begins collecting from CWRU, other producers
- 2013 Rosby Resource Recycling shuts down their composting program
- Barnes Nursery in Sandusky is the only game in town for large scale composting
- Rustbelt Riders, Groundz, Rid-All Green Partners, Community Gardens
- 2016 -
  - Rustbelt Riders starts to expand their reach and change their business model
    - Black Soldier Fly Larvae Pilot
  - Full Cycle Organics Indoor in-vessel composting system
  - Barnes Nursery continues operating, looks to expand closer to CLE



### On the Horizon

- 1) Test for and implement post-consumer composting at Leutner & Fribley dining halls
  - How much waste are we talking about?
  - What do we need to change on our logistics end transportation/pickup frequency, etc.
- 2) Investigate potential relationships with new vendors in the region.
  - Transportation changes to increase volumes
  - Determine average tonnages for other compost streams
  - Determine if there is a funding stream to pay for composting



### On the Horizon

3) Continue researching small-scale, in-vessel compost system to potentially bring to campus

- Placement?
- Maintenance?
- Financing
- 4) Continue working with CWRU Farm to determine ways to increase our input and their output.
  - Maximize our farm's capacity to grow tasty food



#### What can I do??

- Know the difference between plastic and "compostable" plastic
- Reduce your own food waste! Take what you need, eat what you take!
- Advocate for composting to occur organization and city-wide.
- Compost at home
- Practice meal planning Use scraps to make broth



### **Upcoming Events**

- April 10-14<sup>th</sup> CWRU Food Week
  - April 13<sup>th</sup> Movers and Growers, Local Food Entrepreneurship
    - 11:30-12:45p Crawford 111
  - April 13<sup>th</sup> Keynote w/ founder of Snowville Creamery's Warrren Taylor
    - 5pm Wolstein Research Building
- April 18 Shift your Ride: Sustainable Transportation Fair
  - 11-2pm Tink Senior Classroom & Atrium
- April 21 Bikes vs. Cars Film Screening Strosacker Auditorium 7, 9, 11pm
- April 23 Doan Brook Stream Sweep 1-4pm Rockefeller Park Gazebo
- April 26 Green Bag Lunch: Lake Erie w/ Dr. Jeff Reutter 12-1pm Tink Senior Classroom



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# **Got Good Dirt?**

Backyard Composting



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### **Making Decisions**



Ultimate Dirt Machine (Digester bin) = \$50 Go Plastics, Georgia Retail value over \$100



Wishing Well Composter = \$50 Covered Bridge Organics, Ohio Retail value \$74 or more





17

#### **Making Decisions**

#### Yard Butler - Compost Aeration Tool \$20

#### Compost Thermometer \$10





#### Sure-Close Pail = \$5

Retail value \$20 Add a pail to hold your food scraps in the kitchen

until you're ready for a trip to the compost bin.

SERVE

EST. 1826 possible\*



Suyahoga**Recycles**.org

#### **Compost Bin Reference Guide**



Ultimate Dirt Machine

Best for food waste!

#### Well Best for yard waste!

 Stakes into the ground on soil or your lawn

For an active

composter

Easy assembly

waste

Accepts most yard

do's and don'ts in

 Processes some clean food scraps. See

Composting Guide on

CuyahogaRecycles.org

Wishing

- For a passive composter
- Dig into the ground
- No assembly
- Accepts most yard waste
- Processses all food scraps
- Can add pet waste, should only be placed near non-edible landscaping
- No air vents
- Better for small spaces
- Air vents at bottom
   Creates soil amendment for garden and landscaping

Visit www.CuyahogaRecycles.org

to learn about composting tips and upcoming compost seminars

Compost supplies are sold during compost seminars and year-round at our office 4750 East 131 Street, Garfield Heights 216.443.3749. Check or cash is accepted. All sales are final.



# To help make your decision



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# **Healthy Soil**

Soil health is defined as continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans.

- Regulates water
- Sustains plant and animal life
- Filters and buffers potential pollutants
- Cycles nutrients



Provides support and physical stability

CASE WESTERN RESERVE UN IN THE GET TOT EST. 1826 structure, and solf depth as well as water and nutrient holding capacity



# **How To Start A Pile**

Lay down base material (chopped brush or other coarse materials) on soil to allow air circulation around base of pile.

- Alternate layers of greens (nitrogen) and browns (carbon) around 3"- 6."
- After each green/brown layer, add up to 1" of an activator such as garden soil or compost. Activators like dried manure, coffee grounds, bone/blood/horn/fish meal or urea fertilizer will provide nitrogen to encourage reproduction of







# A Healthy Pile

### Keep volume around 3 feet cubed.









# Temperature

Most backyard piles are active between 90 and 120 degrees

131 degrees kills weed seeds and pathogens



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# Moisture

50 % water

#### Feels like a wrung out sponge



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#### Oxygen

Turn, stir or fluff up to create porous areas for living creatures



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# **Compost Ingredients**

#### Do's

Leaves Grass clippings Plants

Nuts

Straw, hay

Fruits, vegetables and grains Egg shells



Coffee or tea grounds Sawdust

Lint



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Don'ts Meats **Dairy Products** Oil Bones Cat and dog droppings Cat litter **Diseased plants** Ashes from coal or Charcoal Branches or limbs Quick lime (hydrated







# **The Mixture**

30% Green or nitrogen containing organic matter supplies protein.

Vegetables, fruits, flowers, plant clippings, grass clippings, coffee grinds, manure, etc...



#### 70% Brown or carbon based organic matter supplies energy in carbohydrates.

Dead leaves, straw, sawdust, wood chips, shredded newspaper, corn stalks, cotton rags, nut shells, pine needles,



Cuyahoga Count



# **Balanced Diet**







# Location

# Need a level and well drained area



#### Sunny Spot







# Location

#### Keep accessible and discrete

#### Build pile over lawn or soil







# Keeping The Pile Active As Weather Cools

#### Put A Lid On It



#### **Block Freezing Winds**





# It's Working When

When the pile heats up.

When materials no longer look like the original stuff you put in the pile.

Has little to no smell beside an earthy one.







# **Increase Decomposition**

Aerate it

Check moisture level

Maintain neutral pH

Sniff and solve problems









# THANK YOU!

Visit CuyahogaRecycles.org to learn more about reducing, reusing and recycling at home, at work and in the community.

The Cuyahoga County Solid Waste District is the leading resource in Cuyahoga County for information, expertise and

programs that support sustainable



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### Questions







36