Composting in Nahant

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It is not what we do, but also what we do not do, for which we are accountable. -Moliere, actor and playwright (15 Jan 1622-1673)
Most Preferable

AVOID
REDUCE
REUSE
RECYCLE
RECOVER
TREAT
DISPOSE

Least Preferable
Food Recovery Hierarchy

Source Reduction
Reduce the volume of surplus food generated

Feed Hungry People
Donate extra food to food banks, soup kitchens and shelters

Feed Animals
Divert food scraps to animal feed

Industrial Uses
Provide waste oils for rendering and fuel conversion and food scraps for digestion to recover energy

Composting
Create a nutrient-rich soil amendment

Landfill/Incineration
Last resort to disposal

Most Preferred

Least Preferred
Agenda

• Motivations
• Approaches
• How to start
Why do this?
“New Pants” are:
- Expensive
- Permanent infrastructure
- Disgusting – and still require landfill space

Dieting is the right thing to do
The Steps to Zero Waste: Where should it go?

- Organics
- Beyond the Bin
- Freecycle/Craigslist
- Bulky/Hard
- Textiles/Shoes
Today

Organics

Freecycle/Craigslist

Beyond the Bin

Bulky/Hard

Textiles/Shoes
Food Waste
34 Million Tons Generated

Total MSW Generation (by Material), 2009
243 Million Tons (Before Recycling)

- Paper and Paperboard 28.2%
- Food Scraps 14.1%
- Yard Trimmings 13.7%
- Plastics 12.3%
- Metals 8.6%
- Rubber, Leather, & Textiles 8.3%
- Wood 6.5%
- Glass 4.8%
- Other 3.5%

www.epa.gov/epawaste/nonhaz/municipal/msw99.htm
What to do?

Food Recovery Hierarchy

- **Source Reduction**: Reduce the volume of surplus food generated.
- **Feed Hungry People**: Donate extra food to food banks, soup kitchens, and shelters.
- **Feed Animals**: Divert food scraps to animal feed.
- **Industrial Uses**: Provide waste oils for rendering and fuel conversion, and food scraps for digestion to recover energy.
- **Composting**: Create a nutrient-rich soil amendment.
- **Landfill/Incineration**: Last resort to disposal.

Most Preferred
Least Preferred
Why should you bother?

Recycling & Composting
Saves Tax Dollars
Thank you
For Doing Your Share
Compost = Organics Recycling

- Refuse/Reduce/Reuse/Repurpose === then Recycle
- Organics version
  - Refuse – don’t buy more than you need
  - Reduce – make use of leftovers, be less discriminate with expiration dates - **The Dating Game** – Not food safety related!
  - Reuse – find places to donate (develop list of pantries and meals)
    - Food insecurity exists very near by
    - Food Link
    - Spanish refrigerator
  - Repurpose – feed to animals (household pets, develop list of farms)
    - Chickens
    - Pig farm
  - Recycle
    - Curbside collection
    - Backyard digester (can take meats, fats, dairy, bones and PET WASTE!)
    - Backyard compost (+ curbside pick up for meats, fats, dairy, bones)
    - Indoor
Organics - *organics* - noun

1. Of, relating to, or derived from living organisms: organic matter
2. Yard and landscape trimmings—leaves, grass clippings, & brush
3. Agricultural and land-clearing/forestry debris
4. Manures and biosolids (sludge)
5. Food scraps and food processing residues
6. Non-recyclable/soiled paper—napkins, paper towels, and other paper products¹
   - 1 Food soiled paper, such as stained pizza boxes, uncoated paper cups and plates, used coffee filters, paper food cartons, napkins, and paper towels, usually comes from the kitchen and is not appropriate for paper recycling due to contamination. Food scraps and soiled paper together are often called “source separated organics” (SSO).
7. Items manufactured from organics— compostable bags, utensils, and plates, cups and other service ware made from corn and potato starch, bagasse, PLA, and similar materials
Composting - Approaches

• Offsite – curbside pickup = hauling
  – Windrows/natural
  – ADs
• Backyard
• Inside

• Municipal infrastructure
Support Diversion

✓ Anaerobic Digestion
✓ Composting
   - Landfill

Encourage Infrastructure!
# Where – pros and cons

<table>
<thead>
<tr>
<th>1. OFFSITE</th>
<th>Pros</th>
<th>Cons</th>
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<tbody>
<tr>
<td>*curbside</td>
<td>Most accept ALL</td>
<td>- operational costs</td>
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</table>

<table>
<thead>
<tr>
<th>2. Backyard</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
</table>
| *bins | no hauling costs  
no operating costs | - no meats, fats, dairy (could attract critters) |
| *worms (vermi) | no hauling  
can be done indoors | |
| *Tumbler | above plus:  
- takes meats, fats  
- no worries on critters | - very expensive initial investment |

<table>
<thead>
<tr>
<th>3. Inside</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
</table>
| *bokashi | no worms  
no hauling costs  
minimal operating costs | - Indoor  
- Initial investment |
<p>| *Nature Hill | cheap to operate and takes nearly everything | - expensive initial investment |</p>
<table>
<thead>
<tr>
<th>System</th>
<th>start up investment costs</th>
<th>start up convenience</th>
<th>convenience</th>
<th>operating costs</th>
<th>environmental score</th>
<th>range of items</th>
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</thead>
<tbody>
<tr>
<td>Curb side - Hauling</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
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<td>+</td>
<td>+</td>
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</tr>
<tr>
<td>indoors</td>
<td>-/+</td>
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<td>+</td>
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</tbody>
</table>
Composting – off site

Curbside pick up
- ideally, municipal facility (EPA)

• We have explored this --- only feasible with co-collection. Something to aim for!
Backyard
Another option - digesters

- Don’t produce compost
- “digest” food scraps – including meats, fats, dairy and pet wastes (including feline and canine!)
  - Decomposes into the soil around them
- No yard trimmings
- **Green Cone** – or build your own from a metal garbage can
Indoor
Summary

• Backyard
  1. Self built (~$ 0)
  2. Earth Machine (~$ 40)
  3. Vermicomposting (~$100)
  4. Tumbler (~$400)

• Indoor
  1. Bokashi ($30 - $80)
  2. Nature Hill ($200 - $400)
Overcoming the “Yuck Factor” – Tips

• Use a plastic, metal or ceramic container with a tight fitting lid for kitchen collection.
• Contain food scraps in an uncoated (no shine) paper bag, approved compostable bag, or line container with newspaper.
• Wrap food scraps in newspaper or paper towels before placing in the collection bucket.
• Place leftovers in a container or wrap them in paper and store them in the refrigerator or freezer until collection day.
• Carry leftovers to the collection cart in cardboard pizza boxes and cereal boxes (with inner bag lining removed).
• To avoid smells in the kitchen, dump food scraps every few days.
• Sprinkle baking soda in the compost bucket container
• Wash the collection bucket with vinegar after dumping it; rub vinegar around the rim to deter fruit flies.
• Remove fruit flies with a vacuum.
• Put melon scraps directly into the outside collection cart (not in the kitchen bucket).
• After dumping the food scraps in backyard composter, cover with shredded paper or damp newspaper.
Ideas for enhancement

• Share with neighbors
  – Two bins – one to be active while one cures
• Dirty Boys Composting
• Community Garden drop off
• Drop off for commercial collection
  • Means you can include meats, fats, dairy, bones and so much more
Pet waste
How to get started

• Decide on the method best for you
  – Yard
  – Indoor space
  – Tolerance
  – costs
Backyard: How to get started

• Build
• Home Depot, Costco, Amazon etc.
• Earth Machines – state contract
• Shovel and turner
  – Share? The life of a drill....
• Accelerator??
Browns & Greens

• Takes some experimenting – typically recommend 3:1
Sourcing your Browns

• LEAVES
• Let grass clippings dry out
• Sawdust
• Guinea pig/bunny/hamster shavings
• Shredded paper

Newspaper
Seasonal and Lifecycle

- START NOW – summer is a great time to get the system started
- Turn often – may need to water in summer
  - Leave lid off during rain
- Depending on family size, don’t have more than 60% full by first freeze (accelerant?)
- When full, keep turning but do NOT add more material! (see neighbor suggestion)
Troubleshooting

• Smelly?
  – Check your contributions!
  – Turn compost

• Gnats/fruit flies?
  – Add browns
  – Add a layer of soil

• Critters?
  – Check your contributions!
  – Add browns
Looking into drop off?

• Bring in:
  – Bucket and dump
  – Paper bags from grocery store
  – COMPOSTABLE bag
    • Compostable not equal to biodegradable!
Keys to Successful Composting!

By Dmitriy Nikolayev and Kathleen Ohlson

As the fall with its abundance of yard waste approaches, we wanted to talk you into composting in your back yard.

Composting is basically feeding little “critters” that naturally turn organic material into a valuable soil amendment. These microbes require the following four “food groups”:

- Carbon-rich (“brown/dry”) organic material (autumn leaves, straw, wood chips, etc.);
- Nitrogen-rich (“green/wet”) organic material (grass clippings, fruit and vegetable food waste, etc.);
- Air and
- Moisture.

To make composting easy keep these key steps in mind:

- Change behavior. Like anything new, composting requires creating new routines. When you begin, place the compost pile or bin in a place that’s convenient for you to tend in any season.
- Remember to water. The pile must always be moist, but not soaked. Piles that are soaked develop odor issues, while dry piles take a very long time to turn into compost.
- Turn the pile. This is the equivalent to turning off the oxygen for the critters that turn organic mater into compost. Piles that are not mixed take longer to turn and sometimes develop odors, so set a goal of turning a pile at least once a month.
- Remember the “brown” ingredients. As you add food scraps to the pile, don’t forget to mix them with yard waste to keep the optimal ratio of 1:3 “green” to “brown.” Otherwise, this may lead to odors. If you are running out of ideas for brown material, use shredded paper.
- Inappropriate materials. Your pet critters are vegetarian, so please avoid animal proteins (no meat!)

Continued on the following page →

Addressing Home Composting Anxieties

In a recent MassRecycle poll, three common composting issues were revealed, but there are very easy ways to fix them.

1. The time needed to get a finished product. Keep in mind, compost takes a few months to make. The composting process slows down because of a lack of water and infrequent turning. So remember to turn the material monthly and properly mulch the “brown” material to speed up its breakdown.

2. Odor issues. This problem happens only when there’s a lack of oxygen inside the pile and excess of “green” material. To alleviate this, turn the pile more often, add more “brown” material, and let the pile dry up a little (but not completely).

3. Animal and birds. To keep your compost safe, purchase an enclosed composter or include a rodent-proof mesh bottom and a cover for your pile.

Nov. 15 - America Recycles Day

The only nationally recognized day dedicated to the promotion of recycling programs in the United States. For more information, visit http://america-recyclesday.org/

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