



TowardZeroWasteNahant@outlook.com

Composting in Nahant

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

Most Preferred

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

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



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The Steps to Zero Waste: Where should it go?

Organics

Beyond
the Bin

Freecycle/
Craigslis

Bulky/Hard

Textiles/
Shoes

Today

Organics

Beyond the
Bin

Freecycle/
Craigslist

Bulky/Hard

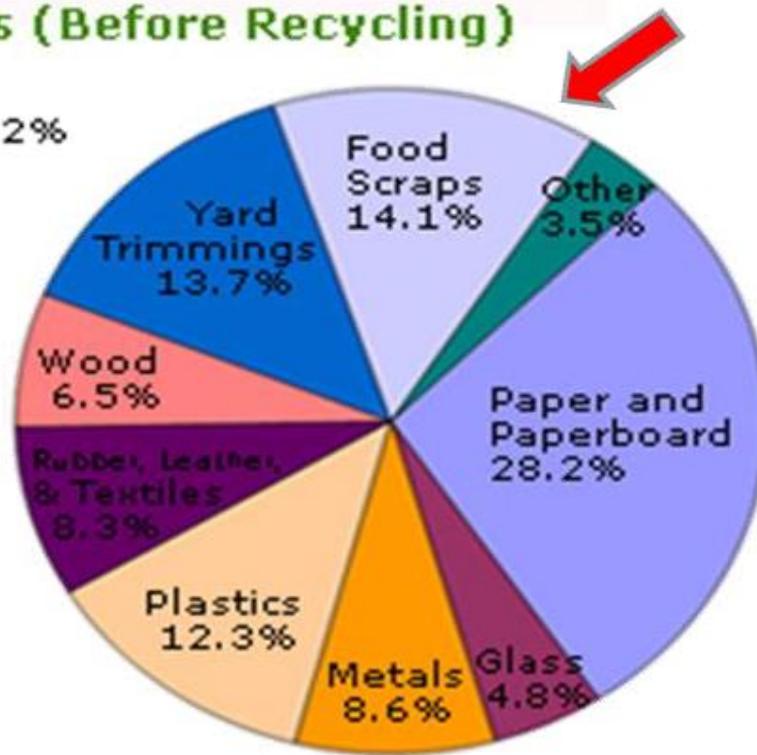
Textiles/
Shoes

Food Waste

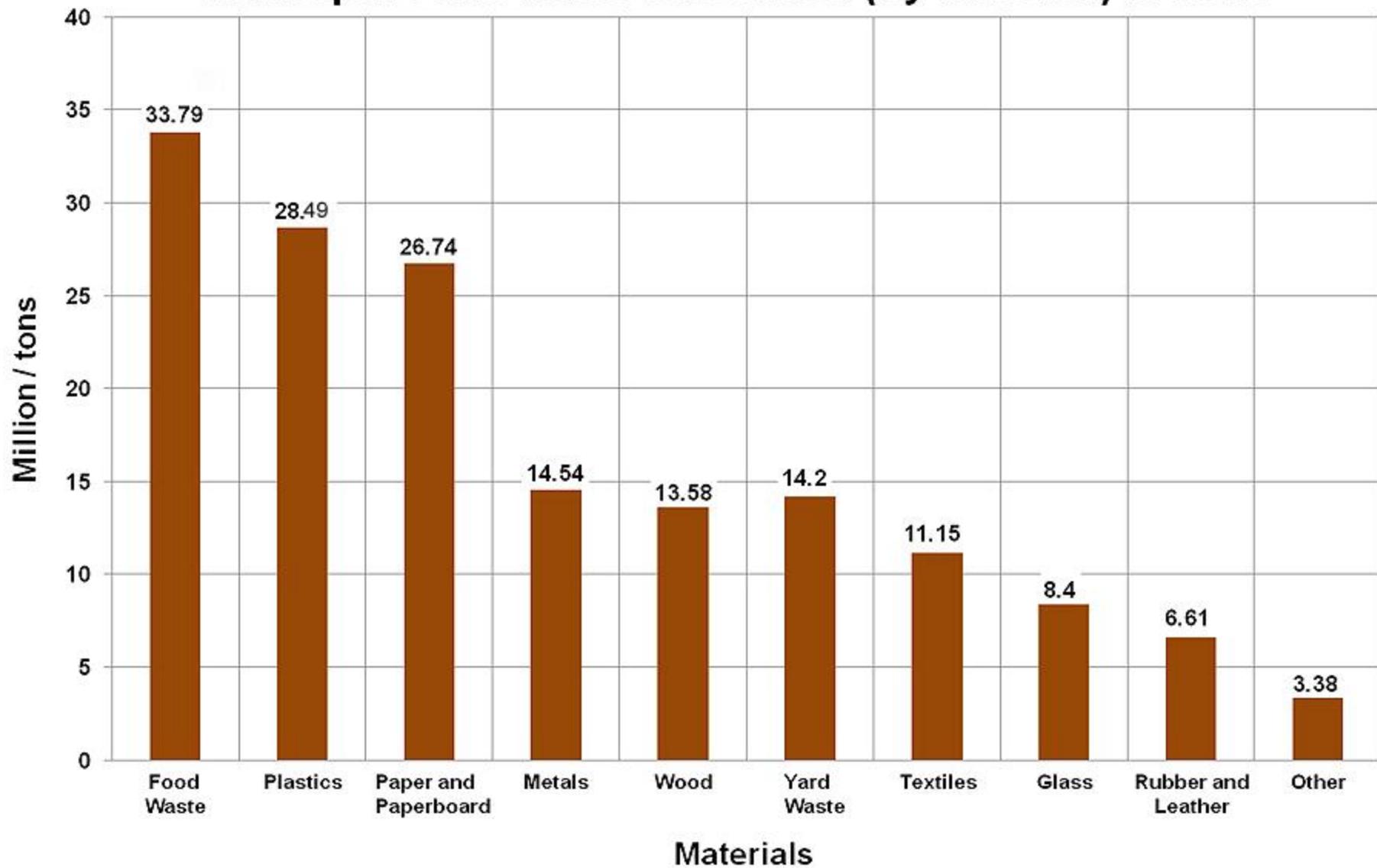
34 Million Tons Generated

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%



Municipal Solid Waste Discarded (by material) in 2010



What to do?



Why should you bother?



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 - or•gan•ics - 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

1. OFFSITE	Pros	Cons
*curbside	Most accept ALL	- operational costs
2. Backyard	Pros	Cons
*bins	no hauling costs no operating costs	- no meats, fats, dairy (could attract critters)
*worms (vermi)	no hauling can be done indoors	- no meats, dairy, oils, salty foods, spicy foods
*Tumbler	above plus: - takes meats, fats - no worries on critters	- very expensive initial investment
3. Inside	Pros	Cons
*bokashi	no worms no hauling costs minimal operating costs	- Indoor - Initial investment
*Nature Hill	cheap to operate and takes nearly everything	- expensive initial investment

System	start up investment costs	start up convenience	convenience	operating costs	environmental score	range of items
Curb side - Hauling	+	+	+	-	+	+
backyard	+	+	-	+	+	-
indoors	-/+	-	+	+	+	+
Muni-natural	-	-	+ *	+ *	+	+
Muni-mechanical	-	-	+	+	+	+

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



Indoor 2



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!

IN THE LOOP!

Free newsletter of MassRecycle, the Massachusetts Recycling Coalition

Issue #11, September 2011

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 matter 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://americarecyclesday.org/>

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