

Food Waste Disposers – Overlooked and Misunderstood



Discussion

- **The Green World We Live In**
 - **Municipalities Challenged by Waste and Energy Issues**
 - **Important Solution is Right in Our Kitchens**
- **What Should We Do With Food Waste?**
 - **Three Options**
- **From Milwaukee to Stockholm –**
 - **Municipalities Discovering Benefits of Turning Food Waste Into Fuel and Fertilizer**



The “Green” World We Live In –

- Many aspects to the “green movement”
- Issues centered on:
 - Reduction of greenhouse gases
 - Finding renewable energy sources, energy conservation
 - Waste reduction and recycling
- Food waste disposers can have a positive impact on these issues
- When it comes to disposers, a holistic view is required



What Should We Do With Food Waste?

- **Put it in the trash and send it to the landfill?**
- **Put it into the compost pile?**
- **Send it through a food waste disposer to the wastewater treatment plant?**



Waste Management - Landfill

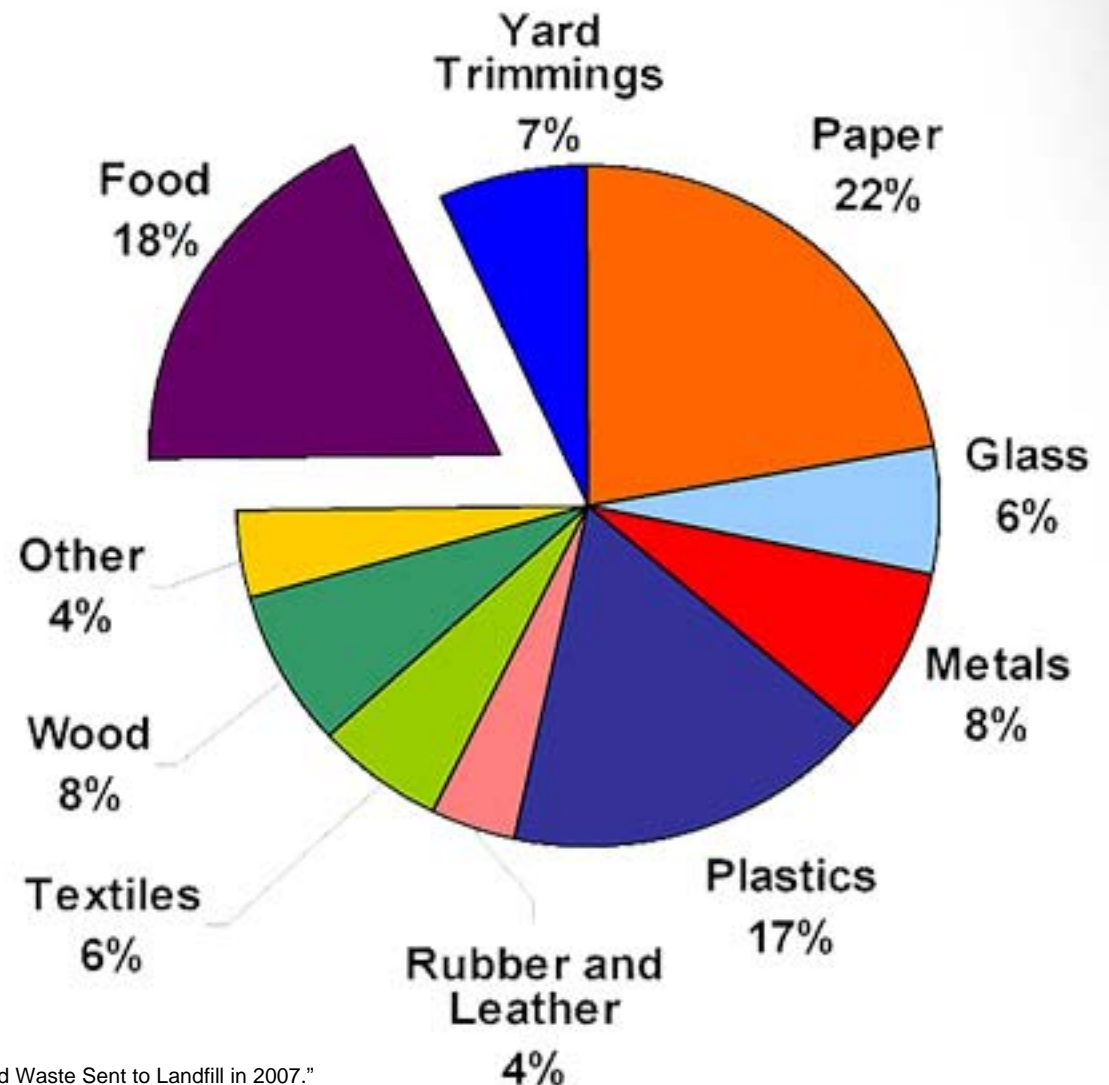
- **Household Food Waste**
 - Experts estimate that organics are 25-50% of a household's waste
 - The average family of four generates about 36 lbs of food waste/week
 - About half of that goes into landfills. That's 19 million tons in the U.S.



Source: Data on file at InSinkEerator div. Emerson Electric Co. Angel, Wendy "Au Revoir to Waste." Waste Age, Aug. 1, 2005. O'Connell, Kim, "A Moveable Feast." Waste Age, Dec. 1, 2002. Jones, Timothy. "The Garbage Project." University of Arizona. Aug. 10, 2005, Sept. 12, 2005.

Waste Management - Landfill

- **Food waste second only to paper in landfill waste**



Source: U.S. EPA, "U.S. Waste Characterization.Municipal Solid Waste Sent to Landfill in 2007."

Food Waste and Landfills

Disposer usage helps reduce:

- Diesel fumes from garbage trucks transporting food waste to landfills
- Methane from decomposing food waste at landfills
 - Methane, a greenhouse gas, is 21 times more potent than CO₂
- Leachate from decomposing waste
 - Leachate can contaminate ground water

Because food waste decomposes quickly, greenhouse gases can be emitted before capture at landfills



Source: Diggelmann, Dr. Carol and Dr. Robert K. Ham. University of Wisconsin. Tchobanoglous, George and Frank Kreith. Handbook of Solid Waste Management, 2nd Edition. US EPA.

Food Waste and Composting

- **Composting is challenging**
 - Urban environments
 - High rise buildings
 - Cold climates
- **Backyard composting requires space, labor and time**
- **Disposers complement composting by handling non-compostable waste (meat, dairy) or when it's difficult**



Wastewater Treatment Plants

Recycle Food Waste

- Disposers grind food into fine particles that can be safely transported via sewer systems
- Many wastewater treatment plants remove solids and send them to anaerobic digesters to be broken down by microorganisms
 - In the process, methane is generated
 - Many plants turn methane into renewable energy
- Biosolids – what is left – can be processed into fertilizer for use on farm fields, golf courses, home gardens



Sources: Water Environment Federation. Design of Municipal Wastewater Treatment Plants, 4th Ed. Diggelmann, Dr. Carol and Dr. Robert K. Ham. University of Wisconsin. National Biosolids Partnership, "Questions and Answers on Land Application of Biosolids."

A Tale of Two Cities – San Francisco

New ordinance to divert food waste from landfills

- Food waste collection mandatory or face fines
- Ordinance is silent on disposer use
- San Francisco's treatment plants make power from food waste...

Diversion to composting may reduce energy produced!



A Tale of Two Cities – Milwaukee

- Wastewater treatment plant encourages residents to use disposers to send food waste to the treatment plant
- Like San Francisco, Milwaukee's treatment plants also make power from food waste ...

They save \$2 million in power each year!



Don't be the cat
throwin' food scraps in the trash.
Use a disposer instead.

We can turn your food waste into
energy, saving all of us money.
For more information, go to
www.mmsd.com



From Milwaukee to Stockholm –

- **Landfill Reduction**
 - Herefordshire & Worcestershire County (UK)
- **Renewable Energy Production**
 - Stockholm, Sweden encourages residents to use disposers because biogas from treatment plant is used by municipal buses
- **Energy Savings**
 - In one year, Boston's Deer Island treatment plant saved \$15 mil in energy costs
- **Greenhouse Gas Reduction**
 - By capturing methane, Santa Cruz, CA wastewater treatment facility says it prevents the emission of 41 tons of CO₂ into the atmosphere annually



The “Green” World We Live In –

When municipal officials examine the options and weigh the costs and benefits to the environment ...

The essential role disposers can play in solving the food waste challenge becomes clear





Thank
You

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