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Q With the addition of food waste, doesn't the effluent that ends up going back into lakes, streams and oceans affect the chemical composition and aquatic life in the receiving waters?

A The U.S. EPA requires wastewater treatment plants to meet effluent standards which are closely monitored by state and local agencies.

- The impact on effluent discharges from food waste has been thoroughly studied. The New York City DEP study determined that any impact would be "de minimis."
- The principal challenge with discharge is nitrogen, which is more directly attributed to human waste than food waste.

Source:
New York City Department of Environmental Protection. June 1997. "The Impact of Food Waste Disposers in Combined Sewer Areas of New York City."

Q Do disposers contribute to the problems with aging infrastructures?

A Studies of the condition of the sewers and treatment plants before and after the introduction of disposers have not identified any significant impacts attributable to their use.

Source:
de Koning, Dr.ir. J. Delft University of Technology. July 2004. "Environmental Aspects of Food Waste Disposers."

New York City Department of Environmental Protection. June 1997. "The Impact of Food Waste Disposers in Combined Sewer Areas of New York City."

Q Doesn't food waste from disposers add a big load to the sewage system, increasing operating costs?

A

- While there is some additional load, it is a load that sewage systems are designed to handle.
- Organic waste can be helpful as a source of carbon that assists biologic nutrient removal and significantly improves biogas production, leading to greater energy efficiency at the plant.
- If the plant captures methane in the process and uses or sells the energy that can reduce operating costs and reduce greenhouse gas emissions by harvesting this renewable energy source.
- Studies show that the cost of treating food waste in the sewage system can be lower than managing it as solid waste in landfills or centralized composting.

Source:
Diggelmann, Dr. Carol and Dr. Robert K. Ham. Department of Civil and Environmental Engineering – University of Wisconsin. January 1998. "Life-Cycle Comparison of Five Engineered Systems for Managing Food Waste."

Hernandez, Gerald L., Kenneth R. Redd, Wendy A. Wert, An Min Liu, and Tim Haug.
Biocycle Magazine. January 2002. "Los Angeles Digesters Produce Energy From Airport Food Residuals."

Rosenwinkel, K.-H. and D. Wendler. Institute for Water Quality and Waste Management, University of Hanover (ISAH). 2001. "Influences of Food Waste Disposers on Sewerage System, Wastewater Treatment and Sludge Digestion."

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Q How can using a garbage disposal cut down on the need to haul organic waste to the landfill because that organic material and any other trash filtered out at the wastewater treatment plant are brought to the landfill anyway?

A The only materials normally put in a landfill from a wastewater treatment plant (aside from those facilities that landfill biosolids instead of land applying them) are materials removed during pretreatment using screens and grates.

- Ground food waste is very fine (less than 1/4") and passes through this initial stage, later to settle out in the primary tanks.
- The food waste (transformed into biosolids) is beneficially re-used as soil conditioner/fertilizer about 60% of the time.

Source:
Kegebein, Jorg, Erhard Hoffmann, and Prof. Hermann H. Hahn. Institute for Municipal Water Treatment, University of Karlsruhe. 2001. "Co-Transport and Co-Reuse – An Alternative to Separate Bio-Waste Collection?"

http://www.wef.org/NR/rdonlyres/83A9CA6F-D5CA-447F-A1D6-5AD13BE34491/0/FrequentlyAskedBiosolidsQuestions.pdf, www.wef.org, Water Environment Federation, Technical Resources on Biosolids. Retrieved Jan. 13, 2009

Q What about the disposer itself – once it's worn out, what should I do with it?

A A study by the Association of Home Appliance Manufacturers (AHAM) found that disposers are composed of nearly 85% metals, which make disposers recyclable through municipal recycling systems and scrap metal dealers. Check for facilities in your location.

Source:
"Recycling, Waste Stream Management and Material Composition of Major Home Appliances" – Final Draft White Paper, prepared for AHAM by RW Beck and Weston Solutions, September 2005 (Table C-9)

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Q Is land applying sludge safe?

A "Sludge" is different than "biosolids." Where available, sludge becomes biosolids when it is processed to reduce pathogens and make the product suitable for land application. Biosolids are tested and graded as Class A or Class B, which determines the use for it.

- Class A and Class B biosolids can be used by farmers, and some municipalities sell Class A at retail to gardeners.
- Biosolids that are to be land applied must meet strict federal regulations and quality standards.
- And don't forget, use of biosolids offsets the need for commercial fertilizers (which are energy intensive to produce and may have quality and environmental issues.)

Source:
http://www.epa.gov/nrmrl/pubs/625r92013/625R92013.pdf, "Environmental Regulations and Technology Publication: Control of Pathogens and Vector Attraction in Sewage Sludge, 2003 edition (PDF) (EPA/625/R-92/013)" July 2003, United States Environmental Protection Agency. Retrieved Jan. 13, 2009

http://www.wef.org/NR/rdonlyres/83A9CA6F-D5CA-447F-A1D6-5AD13BE34491/0/FrequentlyAskedBiosolidsQuestions.pdf, www.wef.org, Water Environment Federation, Technical Resources on Biosolids. Retrieved Jan. 13, 2009

http://biosolids.org/media_main.asp?sectionid=49&pageid=102, www.biosolids.org, National Biosolids Partnership, "Questions and Answers on Land Application of Biosolids." Retrieved Jan. 13, 2009

Howe, David. "Waste Not, Want More," Corn & Soybean Digest, Nov 1, 2008.
http://cornandsoybeandigest.com/inputs/fertilizer/waste_not_want_more_1108/. Retrieved Jan. 13, 2009

http://www.extension.purdue.edu/extmedia/NCR/NCR-202-W.html, "Energy Requirements for Various Tillage-Planting Systems", July 1983. Purdue University Cooperative Extension Service. Retrieved Jan. 13, 2009

http://www.sarep.ucdavis.edu/NEWSLTR/v5n5/sa-12.htm, "Energy and alternatives for fertilizer and pesticide use" Fall 1993. Sustainable Agriculture Research and Education Program University of California. Retrieved Jan. 13, 2009

Q Why doesn't LEED give a point for inclusion of disposers?

A The first generation of green building guidelines is focused on the siting and construction of a building – not what happens after a building is occupied – with energy conservation as the primary emphasis.

- In the case of home appliances, those guidelines generally encourage Energy Star and WaterSense certified products, and for good reason (that is they use such a tiny amount of electricity) there is no Energy Star category for disposers.
- The process of updating LEED and other guidelines to acknowledge the environmental benefits of disposers is underway; the first step is the inclusion of disposers in the National Green Building Standards from NAHB.

Source:
http://www.usgbc.org/DisplayPage.aspx?CMSPageID=147. www.usgbc.org. Retrieved Jan. 13, 2009

http://www.nahbrc.org/technical/standards/greenbuilding.aspx. www.nahb.org. Retrieved Jan. 13, 2009

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Q I've heard that use of garbage disposals on septic systems leads to a faster buildup of scum and sludge in the septic tank and increased need for pumping and maintenance. Is this true?

A Solids do contribute to sludge buildup in a septic tank.
- But if the system is properly designed and sized with the right capacity, then more frequent pumping and maintenance should not be necessary.

Source: InSinkErator div. Emerson Electric Co.

Q Don't disposers contribute to the build-up of fats, oils and grease in the sewer lines?

A
- Research shows that food waste is not present in fats, oil and grease deposits associated with sewer blockages
- Municipalities following preventive maintenance programs for fats, oil and grease have significantly fewer blockages
- With regard to foodservice establishments, discharge of fats, oils and grease is largely due to either the absence of grease interceptors or the improper maintenance or performance of grease interceptors

Source:
Keener, Kevin M., Joel J. Ducoste, Leon M. Holt. December 2008. "Properties Influencing Fat, Oil, and Grease Deposit Formation." Water Environment Research, 80, 2241.

"Composition of FOG Blockages and Their Suspected Cause" testimony presented to the Raleigh City Council, April 8, 2008, Kevin Keener, Ph.D., P.E., Purdue University

Water Environment Federation. June 2008. "Fats, Oils, and Grease Management Training Course."