

Cafeteria Food Waste a Potential Source of Renewable Energy for Michigan State University

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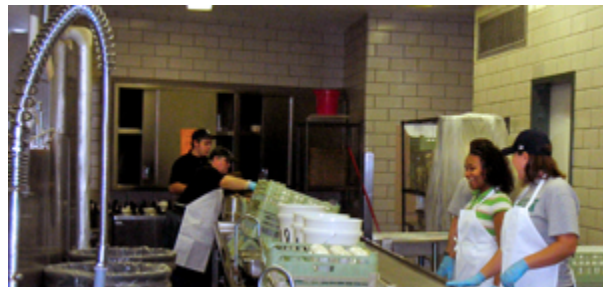


As part of a research project looking at manure management on campus farms, a food waste audit is being conducted for the second time in campus cafeterias. In the fall of 2005, a preliminary food waste audit was conducted in two of the fifteen cafeterias on campus. This year, a more comprehensive study is being carried out to expand and confirm last year's data.

The current research on manure management is being conducted through the Land Management Office with assistance from the Department of Biosystems and Agricultural Engineering at Michigan State University, and will be used to determine the feasibility of installing an anaerobic digester on campus to convert animal waste into methane gas. Anaerobic digestion is the biological decomposition of organic matter in an environment

devoid of oxygen. Methane (the primary component of natural gas) is released during digestion along with carbon dioxide. Food waste from cafeterias can be similarly dealt with. In fact, cafeteria food waste has a biogas production potential nearly ten times that of animal manure. The recycling of campus waste into methane gas has the benefit of providing the university with a potentially cost-effective, renewable energy source. In addition, the resulting reduction in coal-fired emissions may be used as energy credits in the Chicago Climate Exchange, an emissions reduction program MSU has recently become a part of.

The 2005 audit was conducted for two days—one day each in the Akers Hall cafeteria and the Brody Hall cafeteria. The study found that, between the two cafeterias, a total of 1411 lbs of food was wasted—or an average of 0.28 lbs per person. This year's study is more comprehensive in that it is collecting and weighing both food and liquid waste in all fifteen of MSU's cafeterias for three days in each cafeteria. In addition, pre-consumer, or kitchen waste is also being accounted for. So far, nine of the fifteen cafeterias have



been completed. The study has found that an average of 0.21 lbs per person of pre-consumer waste, and an average of 0.41 lbs per person of post-consumer waste is being generated, resulting in a total of 0.60 lbs per person.

The audit data will be used not only within the context of the anaerobic digester research, but also by University Housing and Food Services to evaluate current food waste and methods to reduce the amount of waste created. Starting in January 2007, researchers will begin looking at the feasibility of food waste collection from the cafeterias. The project, if successful, will have the potential to greatly improve public perception of the university, especially with regard to environmental stewardship, and will fit in very nicely with the goals of Boldness by Design, a program that seeks to advance research, outreach, and stewardship.