

# Zero Carbon Footprint Vegetable & Compost Production System

## University of Missouri Bradford Research Center & MU Campus Dining

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An estimated 40% of all food produced in the country is discarded, according to a new federal report. Each day, every person in the U.S. puts about 1,400 calories worth of food in the garbage, according to researchers at the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). Food waste has increased 50% since previous estimates were made in 1974, and now totals some 150 trillion calories per year. SOURCE: CALIFORNIA EMERGENCY FOODLINK



The University of Missouri Animal Sciences and Veterinary Medicine produce 1500 tons of manure and bedding material each year. MU's Campus Dining produces 270 tons of food waste annually.



Several large-scale composting methods exist. These include: Windrow, Aerated Windrow, Aerated Static Pile, In-Vessel, Containerized In-Vessel, Rotating Drum and Bag Systems. Variables include: cost, compost consistency, time, labor and area requirements.



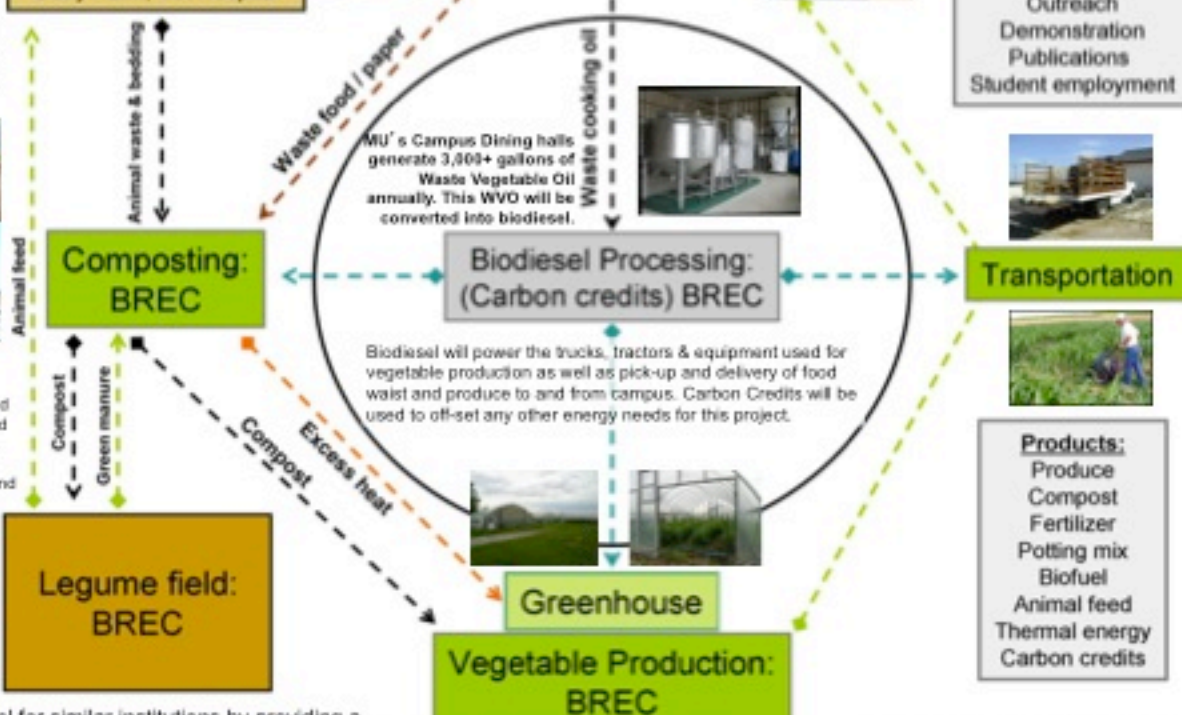
**Horse & livestock:**  
South Farms, Beef Farm, Dairy Farm, Vet Hospital



**MU Campus Dining**



**Opportunities:**  
Research  
Education  
Outreach  
Demonstration  
Publications  
Student employment



**Transportation**

**Products:**  
Produce  
Compost  
Fertilizer  
Potting mix  
Biofuel  
Animal feed  
Thermal energy  
Carbon credits



BREC can serve as a model for similar institutions by providing a working example for alternative waste management. Food waste from Campus Dining will be collected and taken to BREC, mixed with animal manures and beddings as needed to balance any nitrogen or carbon requirements, and composted to create the optimum soil amendment to be used to grow produce that will then be sold back to Campus Dining completing the circle. In addition to the compost utilized by horticultural researchers and students to grow vegetables, excess compost can be applied to larger fields such as sweet corn, pumpkins, melons and other crops, as well as be used as a soil amendment by MU's Landscape Services and the Mizzou Botanical Garden.



There is a growing interest in locally produced food by the general public and in our school systems. This proposed system is the essence of Community Development, and can serve as a model of how food waste from any type of cafeteria (school, business, institutional) can be utilized to produce a valuable commodity. Similar systems could be used to provide schools with a healthy source of locally grown food, and provide vegetable producers with a creative way to convert so called waste materials into assets to sell at local farmers markets and to the general public. The cost/benefits realized from not sending materials to the landfill could be substantial.