

# COMPOSTING ON VALPARAISO UNIVERSITY'S CAMPUS TO REDUCE FOOD WASTE AND DECREASE OPERATING COSTS

Natalie Bittles, HCL Student Valparaiso University  
Dr. Candace Florence, Faculty Sponsor



Valparaiso University

## Introduction

**Problem:** There is an ongoing concern from scientists on the increase of decay in the environment from overuse of resources here on earth. Specifically in the world today, "more than 40% of the food produced from consumption in the United States will never be eaten," (Palmer, 2010). Soon that will be tailored to even more hungry and starving people in the world but also the eradication of certain to all food in years to come. Universities are also spending a significant amount of money on food yet many students are not eating it all and causing waste. Universities are also losing a significant amount of money for the over making of food and without proper disposal of the uneaten food or waste they are taking up our landfills and causing a decay in our earth.

**Purpose:** The purpose of this study is to provide research and supporting evidence that Valparaiso University should implement compost trash cans and a food reduction program to save money for the university and to use proper disposal techniques to make an impact on the environment. It will reduce costs, reduce waste, and reduce landfill space.

## Methods

**Research Design:** The design includes literature reviews, interviews, questionnaires, and data collection.

**Procedure:** The literature reviews were the basis of the research to be able to support the evidence for interviewees as well as questionnaire participants. Following the literature reviews, interviews were conducted for stakeholders identified in the beginning of the project:

- Residence Hall Coordinators
- Director of the Dining Hall
- Employees of the Café
- Science Department Faculty
- Earthtones Club

A questionnaire and data collection was conducted with the sorority complex of Valparaiso University to see if students would be receptive of the change.

## Measures

**Independent Variable:** Time across a timeframe of a year

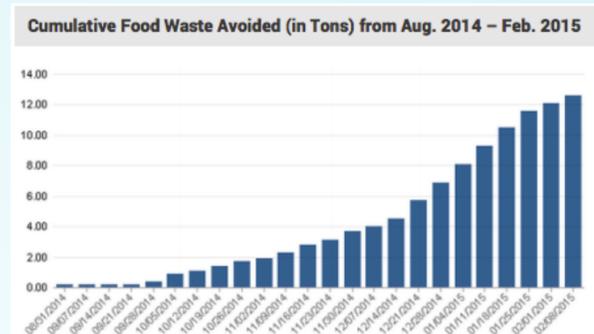
**Dependent Variable:** Food Waste Avoided in Tons

\*Specific to the study done for St. Norbert College

Other measures included our survey from the sorority complex of Valparaiso University

## Procedures

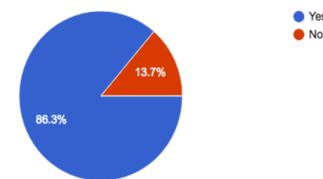
The literature review was the biggest part of conducting our research. Through the literature research the focus was on the LeanPath System for waste weighing. This became the foundation of many questions to our interviewees. The first interview was with the Director of Dining Services. He described their efforts for cost effectiveness as pulping as well as buying in bulk, and pre fabricated foods. However, he did bring up that he was approached to use LeanPath System and needs to look into it more. That is where the research from the literature review supported the argument that this is a system that would benefit the Valparaiso community. Following this interview there was interviews within the Residence Hall Coordinators and an employee of the Café in the Union. These didn't go as positive as the other due to the concern of the time, money, and student involvement. The wrap up to the accumulation of research came from the Earthtones club who has been in the works for some time to compost but not to the extent to which there is a plan to fully implement from start to finish. These specific insights gave conclusions that will be beneficial to all stakeholders in future progression of this study.



## Results

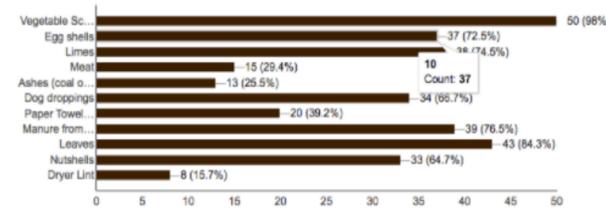
From the research and data collected, conclusions were drawn on a wide array of spectrums. From the 51 responses in the survey given to the sorority population, 86.3% said that they believe that compost trash cans would be beneficial to the student body.

Do you feel that having compost trash cans available on campus would be beneficial to the student body?  
(51 responses)



The second point made from the survey is from the responses on what can be composted and what cannot be composted. The results from the responses show that there is a lack of education in what can be composted. These results support the reasoning for education along with implementation of compost trash cans for proper usage.

Pick the items you think can be composted. (51 responses)



The next results came from the literature review from the LeanPath system. This system weighs food and tracks everything in a database that can be purchased. One case study that gave significant evidence that this program would work for Valparaiso's campus was from St. Norbert College which has 2,200 students who started to implement this composting and weighing system. There was a concern about the time from staff to weigh the food and pulp it for compost but with their trial dates from August 2014-February 2015 when they saw an exponential growth with saving just over 12 tons of food over the course of 6 months.

## Discussion

**Conclusion:** The conclusions that were gathered is that faculty, staff, and students are aware of the problem and are wanting to do something about the ongoing problem of food waste here on Valparaiso's campus. However, there is an issue on education and awareness of how to properly compost, recycle, and reuse the wasted items.

The data gathered was significant in finding out if this could possibly work on Valparaiso's Campus. We were able to see similar institutions who had a significant impact from the use of LeanPath and also composting the wasted food. They were able to save tons of food over a 6 month period which is an almost instant result. Below we were able to gather the costs and benefits from our research, interviews, and overall thoughts to provoke further discussion on the topic.

Costs		Benefit	
Compost trash cans	LeanPath System	Composting	Saving Money
Time	Training Employees	Opportunity for Education	Reducing Waste
		Providing Awareness	Saving Water
		Saving Electricity	Helping the Earth

**Future Endeavors:** The future will be determined by the impact on educators and administrators here at the University. Hopefully, in the next 5 years there will be a program in place because of the research done over the past year.

## References

1. Analysis of U.S. Food Waste Among Food Manufacturers, Retailers, and Wholesalers. (2013, April). Retrieved from www.bsr.org
2. Benefits of Home Composting. (n.d.). Retrieved April 20, 2016, from <http://www.homecompostingmadeeasy.com/compostbenefits.html>
3. Big Agriculture Gets Its Sh\*t Together. (n.d.). Retrieved April 20, 2016, from <http://fortune.com/fair-oaks-dairy-manure-fuel-farming/>
4. Bonhotai, J., Feinland, G., Homor, A., Goodwin, B., Mathers, K., & Michaelides, A. (n.d.). Health & Safety Guidance for Composting in the School Setting. Retrieved from <http://swml.ces.cornell.edu/health.pdf>
5. Campus Compost. (n.d.). Retrieved April 20, 2016, from <http://www.grn.org/page/campus-compost>
6. Climate change: sodexo campus food waste tracking shows dramatic reduction in kitchen waste. (2010). *Technology News Focus*, 368. Retrieved from <http://ezproxy.valpo.edu/login?url=http://search.proquest.com/docview/808486096?accountid=14811>
7. Higher education: trayless dining on campus reduces 15 million pounds of food waste. (2012). *Education Letter*, 207. Retrieved from <http://ezproxy.valpo.edu/login?url=http://search.proquest.com/docview/1009218817?accountid=14811>
8. News Releases from Region 3. (n.d.). Retrieved April 20, 2016, from <https://yosemite.epa.gov/opa/admpress.nsf/90829d899627a1d9852575900400c2b/e58ec380dd52879f8525743c00463cf91?openDocument>
9. Palmer, S. (2010, March). Paying the high price of food waste. *Environmental Nutrition*, 33(3), 1+. Retrieved from [http://ic.galegroup.com/ic/scic/MagazinesDetailsPage/MagazinesDetailsWindow?failOverType=&query=&prodid=&windowstate=normal&contentModules=&display=query=&mode=view&divSelectedPage=&displayGroupName=Magazines&limit=&currPage=&disableHighlighting=&displayGroup=&sortBy=&search\\_within\\_results=&p=SCIC&action=e&catId=ActivityType=&scanId=&documentId=GALE%7CA220767420&source=bookmark&=valpo\\_main&jsid=20d7dad7788df2087a339bd315c9976](http://ic.galegroup.com/ic/scic/MagazinesDetailsPage/MagazinesDetailsWindow?failOverType=&query=&prodid=&windowstate=normal&contentModules=&display=query=&mode=view&divSelectedPage=&displayGroupName=Magazines&limit=&currPage=&disableHighlighting=&displayGroup=&sortBy=&search_within_results=&p=SCIC&action=e&catId=ActivityType=&scanId=&documentId=GALE%7CA220767420&source=bookmark&=valpo_main&jsid=20d7dad7788df2087a339bd315c9976)
10. Recycle Indiana. (n.d.). Retrieved April 20, 2016, from <http://www.in.gov/ldem/recycle/2353.htm>
11. Recycling and Waste Reduction of Porter County. (n.d.). Retrieved April 20, 2016, from [http://www.itmeanstheworld.org/index.php?option=com\\_content](http://www.itmeanstheworld.org/index.php?option=com_content)
12. Reduce Food Waste with Technology | LeanPath. (n.d.). Retrieved April 20, 2016, from <http://www.leanpath.com/>
13. Saer, A., Lansing, S., Davitt, N. H., & Graves, R. E. (2013). Life cycle assessment of a food waste composting system: environmental impact hotspots. *Journal Of Cleaner Production*, 52234-244. doi:10.1016/j.jclepro.2013.03.022
14. State Compost Regulations. (n.d.). Retrieved April 20, 2016, from <http://compostingcouncil.org/state-compost-regulations-map/>
15. Take Action. (n.d.). Retrieved April 20, 2016, from [https://bloomington.in.gov/documents/viewDocument.php?document\\_id=2998](https://bloomington.in.gov/documents/viewDocument.php?document_id=2998)