

Joshua Ellner – Arizona State University



Josh Ellner is a Recycling Technician position at Arizona State University. He has been working in Facilities Management for community colleges and universities for 12 years... He grew up in a small town in the Pacific Northwest, and shortly after receiving a Bachelor degree from the University of Oregon, where he studied Sociology and Political Science, he moved to Arizona. He quickly learned the culture of solid waste in the Southwest was much different than that of the Pacific Northwest, and because of this he wanted to direct his energy towards shifting the cultural view to be one where waste was seen as a resource. Although Josh enjoys the continually changing aspects of solid waste management at the university level he considers himself most comfortable in areas of remote wilderness with his family, and often enjoys multi-day endurance mountain biking and backpacking excursions



**GROUNDS FOR GROUNDS
FERTILIZER INITIATIVE**

Program Background

Began: in 2013

Goal: to collect used espresso and coffee grounds from commercial coffee vendors and put them to use as a natural fertilizer and soil amendment on ASU's main campus

Partners:

ASU Grounds

Campus food vendor-ARAMARK

ASU Recycling



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Background Continued

Collection: occurs at most retail locations serving coffee (roughly 20 locations) and is centralized down into 2 outdoor collection areas

- Coffee Grounds are either collected and applied directly to tree wells and flower beds, or added into a larger pile of finished compost.
- Collecting up to 2000 pounds/week



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Test Plots

Left has coffee grounds applied for 2 weeks, right is the control plot



Problems Encountered

1. Collection methods and transportation
2. Contamination
3. Ownership/
Responsibility



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Collection #1

- Insufficient volume for amount being generated
- Required daily maintenance
- High Contamination due to lack of lid, bag partially covers signage

Collection #2

96 Gallon Toter/s



Pros

- Fixed the low volume problem
- The lid allowed for more visible signage and lower contamination
- Larger volume allowed for the container to be emptied once per week

Cons

- Became extremely heavy and unsafe to handle (volunteers, student employees).
- Moist coffee starts to smell "sour" after sitting in plastic bags for a week in the Arizona heat.

Collection #3

44 Gal Brutes



-Less volume than the 96's, but still works with 2x/ week pickups.

-Low contamination w/ signage and lid.

-2x/ Week pickup keeps the grounds from smelling sour.

-Low weight and wheels allows for volunteers to roll coffee grounds out to campus for direct application of grounds.

-Grounds department was collecting from the centralized locations from early 2013 until early 2015. Recycling program took over collection in early 2015.

Ownership

- Grounds department was collecting from the centralized locations from early 2013 until early 2015.
- Recycling program took over collection in early 2015
- Changed
 - bin
 - Signage
 - Frequency of pickup
 - Wrote SOP



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Operating Procedure for Back of House Organics Coffee Grounds Collection

Effective Date: May, 2015

Objective

To provide a cohesive organizational framework for collection of coffee grounds from back of house operations of ASU Tempe campus food vendors.

Purpose

To establish a reliable, safe, and efficient collection procedure of coffee grounds on ASU Tempe Campus

Material Flow

- ✓ *Food vendor employee collects coffee grounds in a specific container located in close proximity to their work area.*
- ✓ *Food vendor employee empties bins and transports the coffee grounds to the designated outdoor bin location. In the case that the outdoor bin is full, the employee will empty the bags of coffee grounds into the "Organics" compactor on the MU dock.*
- ✓ *Recycling program picks material up from designated outdoor locations and prepares the material to be used by ASU Grounds Department. As of May '15 the locations will be on the MU Dock, Oasis Café on Tyler Mall, and Biodesign Building.*
- ✓ *ASU Grounds Department will use the coffee grounds as a soil amendment on a weekly basis.*

Responsibilities and Accountability

Food Vendor Employees

1. Food vendor employees will ensure the cleanliness of:
 - a) Collection bin located inside.
 - b) Cleanliness of the designated outdoor bin locations.
2. Food vendor employees will ensure that the coffee grounds stream will not be contaminated with other material, such as lids, napkins, foil wrap, etc. If contamination is an issue ASU Recycling Program is responsible for working with food vendor staff to cease contamination. If contamination is a continuing issue ASU Recycling Program will consider the position of all involved parties and make fitting program changes.

Recycling Program

1. Collection: Recycling Program team members will service the designated outdoor bins weekly.
 - a. Weekly servicing of the coffee grounds collection includes:
 - i. Picking up the outdoor bins from ALL designated locations for the purpose of emptying them. These outdoor bins will be picked up on a designated day of the week. (Thursdays as of May '15)
 - ii. Transporting the material to a centralized area in the Ground's Boneyard for use
 - iii. Emptying bags either into containers, or on the ground in the finished compost bay.
 - iv. Ensuring the cleanliness of the outdoor collection bins.
 - v. Returning the bins to their designated areas outside the buildings.
2. Equipment: The Recycling Program is responsible for providing the necessary tools and equipment to carry out daily procedures for this program.
 - a. Tools and equipment include: Indoor bins and lids and outdoor bins.

Grounds Department

1. Grounds Department is responsible for using the prepared coffee grounds as a soil amendment on a weekly basis.

Lessons Learned

- Contamination can be minimized with proper lids and signage
- Smaller bins with wheels allow for ease of transportation of bins and ensures volunteer safety (no more heavy bins)
- Maximizing efficiency in routing (daily pick up was too much, but weekly was not enough) eliminates odors
- SOP's guide ownership



Volunteers spreading coffee grounds in the wells of Citrus trees on ASU campus.

Improved Results

- With less contamination, processing times are much faster and yield is greater
- Enabling volunteers to move coffee grounds from back of dock directly application site cuts out hauling and storage times
- The SOP has allowed us to pin point responsibilities and fix small problems quickly



Volunteers spreading coffee grounds in the wells of Citrus trees on ASU campus.

QUESTIONS?




RECYCLE 

coffee grounds
only

no filters please



have a question? need to recycle something else? email: recycle-q@asu.edu

A large graphic with a white background and a brown coffee cup filled with coffee grounds. The word "RECYCLE" is written in large blue letters at the top, flanked by two green recycling symbols. Below it, the words "coffee grounds only" are written in a white, outlined font. Underneath that, "no filters please" is written in a smaller white font. The ASU logo is at the bottom right. At the very bottom, there is a line of text: "have a question? need to recycle something else? email: recycle-q@asu.edu".

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A graphic with a white background and vertical stripes. It features a green recycling symbol with a small green plant growing out of a white coffee cup labeled "COFFEE". Below the graphic is the ASU logo and the text "GROUNDS FOR GROUNDS FERTILIZER INITIATIVE".