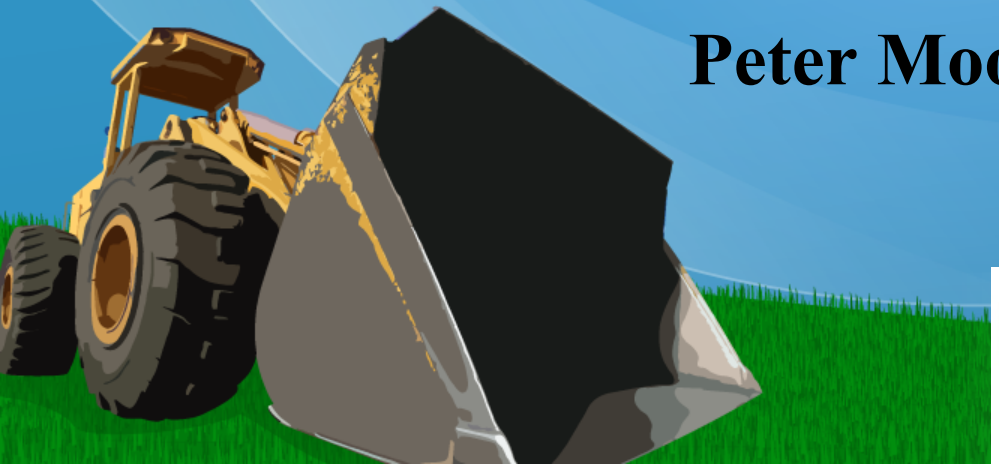
# On-Site Food Scrap Composting

## St. John's University, New York
## USCC 2013

**Peter Moon, P.E.**



O2Compost
Compost Systems & Training

# Raw Feedstocks

# Aerated Static Pile Composting

"The Beltsville Method"

# A High Quality Finished Product

# US ARMY AT FORT LEWIS

JBLM - Tacoma, WA

# PHILADELPHIA PRISON


Correctional Facilities

# WHITE HOUSE

Washington DC

# MOHICAN FARM

Cooperstown, New York

# BEIJING, CHINA

Rural Village 2-hours from Beijing

# BOGOTA, COLUMBIA


Rural Village

st. john's UNIVERSITY

# FOOD SCRAP COMPOSTING

At St. John's University, New York

# BLOWER & AERATION TRENCHES

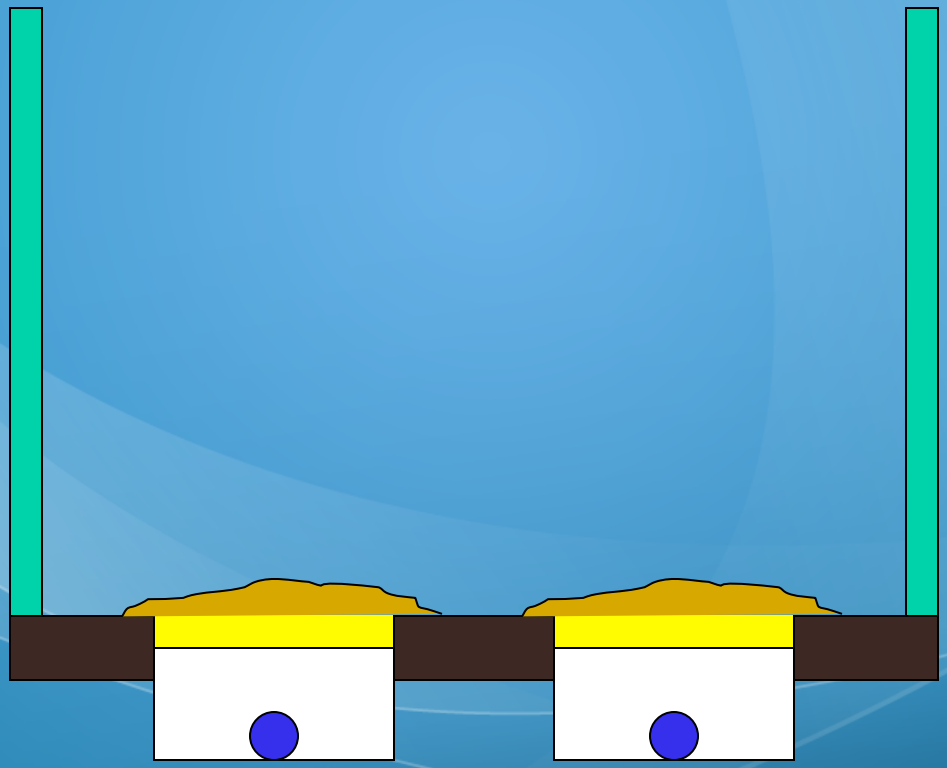


Queens, New York

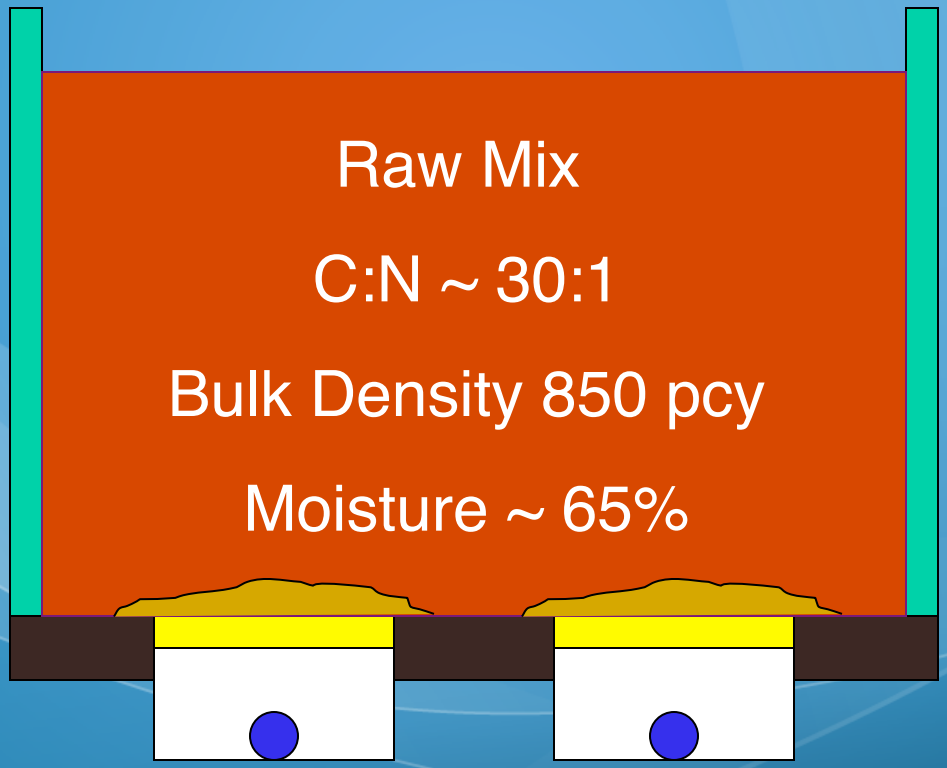
# ADDING PLENUM LAYER

Queens, New York

# Cross Section of an Aerated Bay



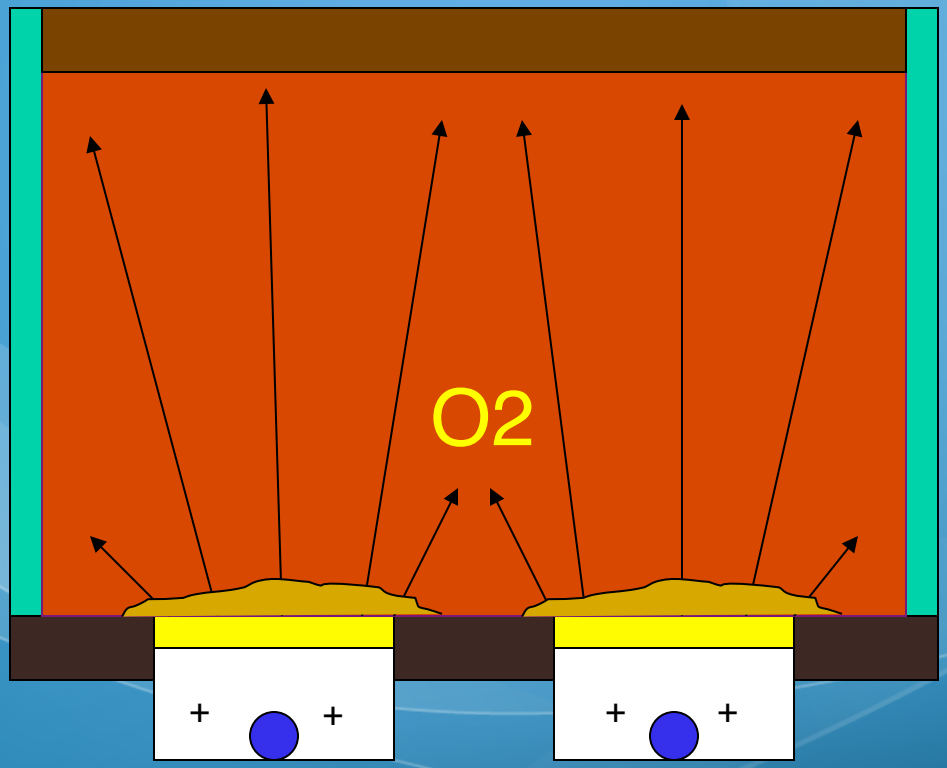
# Filling the Bin



# Placing the Compost Cover

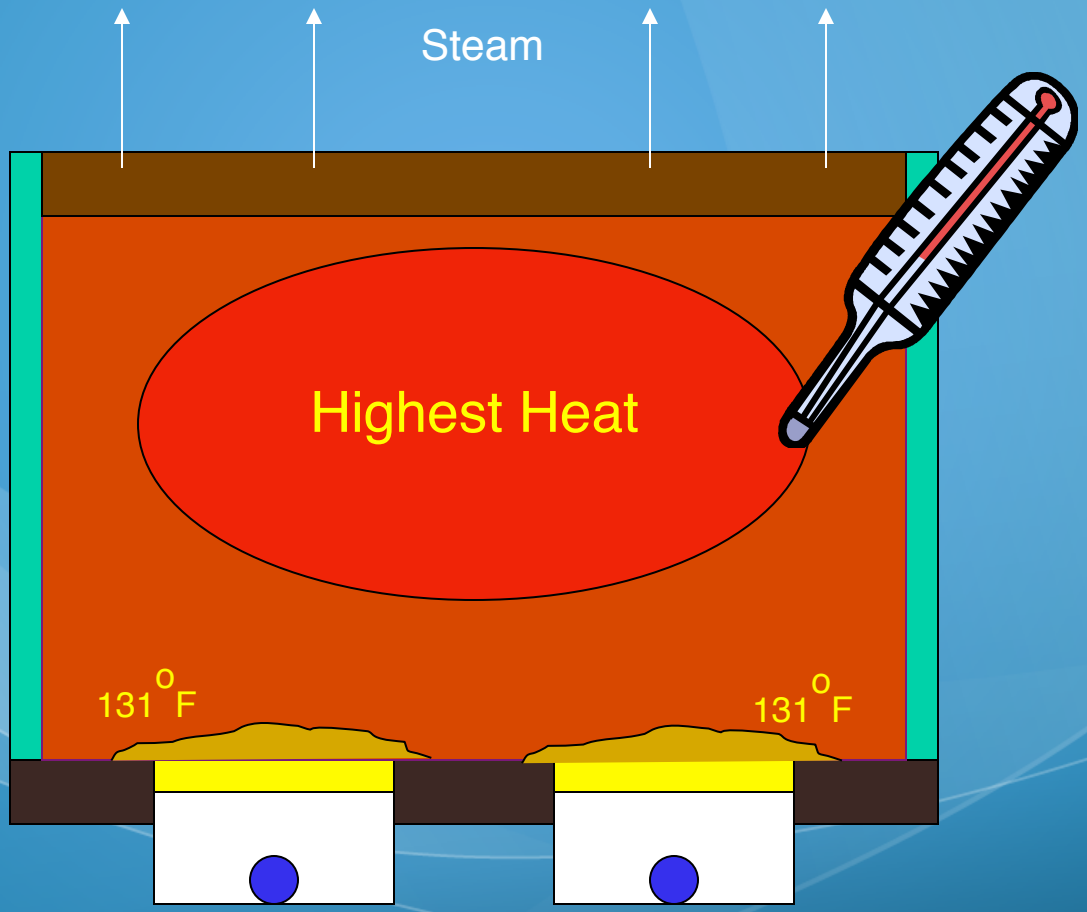
# Turning On the Airflow

Typical Aeration Cycle: 2-min ON & 30-min OFF



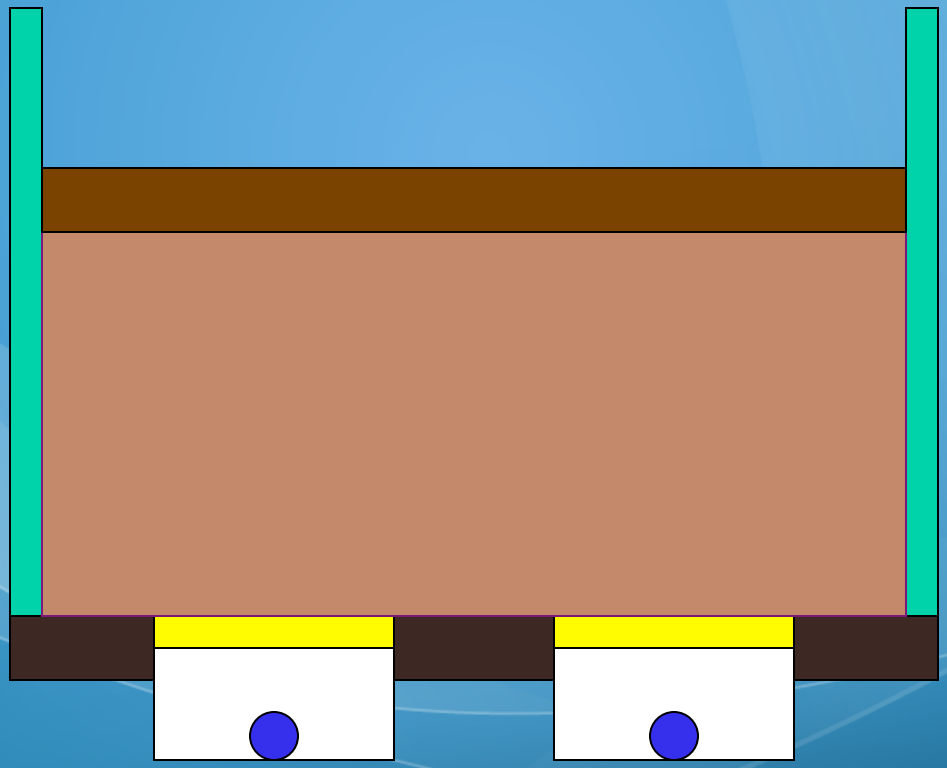

No Turning!

# Monitoring Pile Temperatures



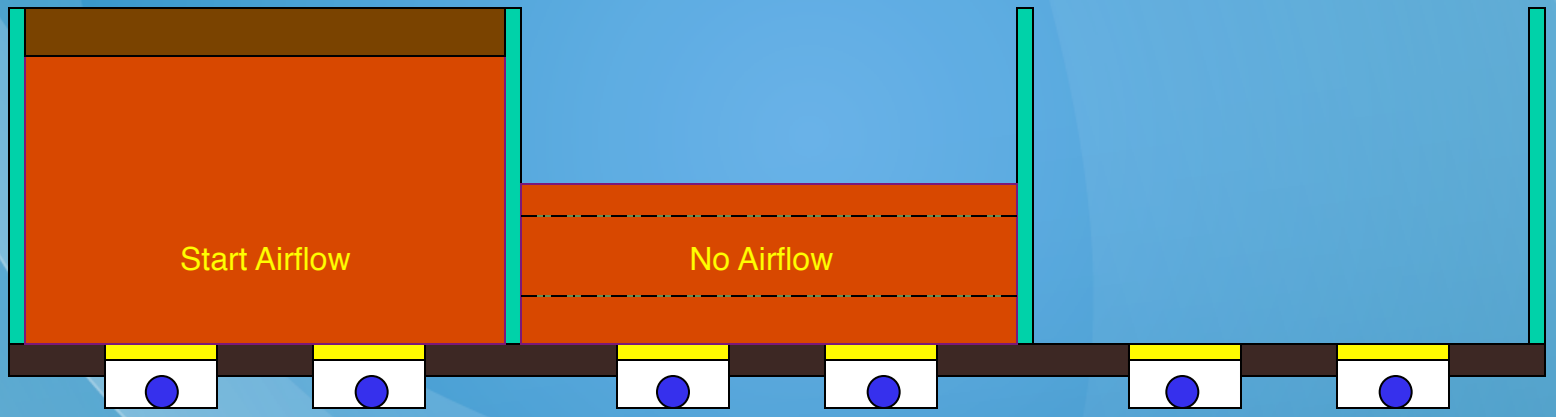
# Active Composting to Curing

**Volume Loss 25% – 40% in 4 weeks**



# Cross Section of a 3-Bay System

## Stage 1



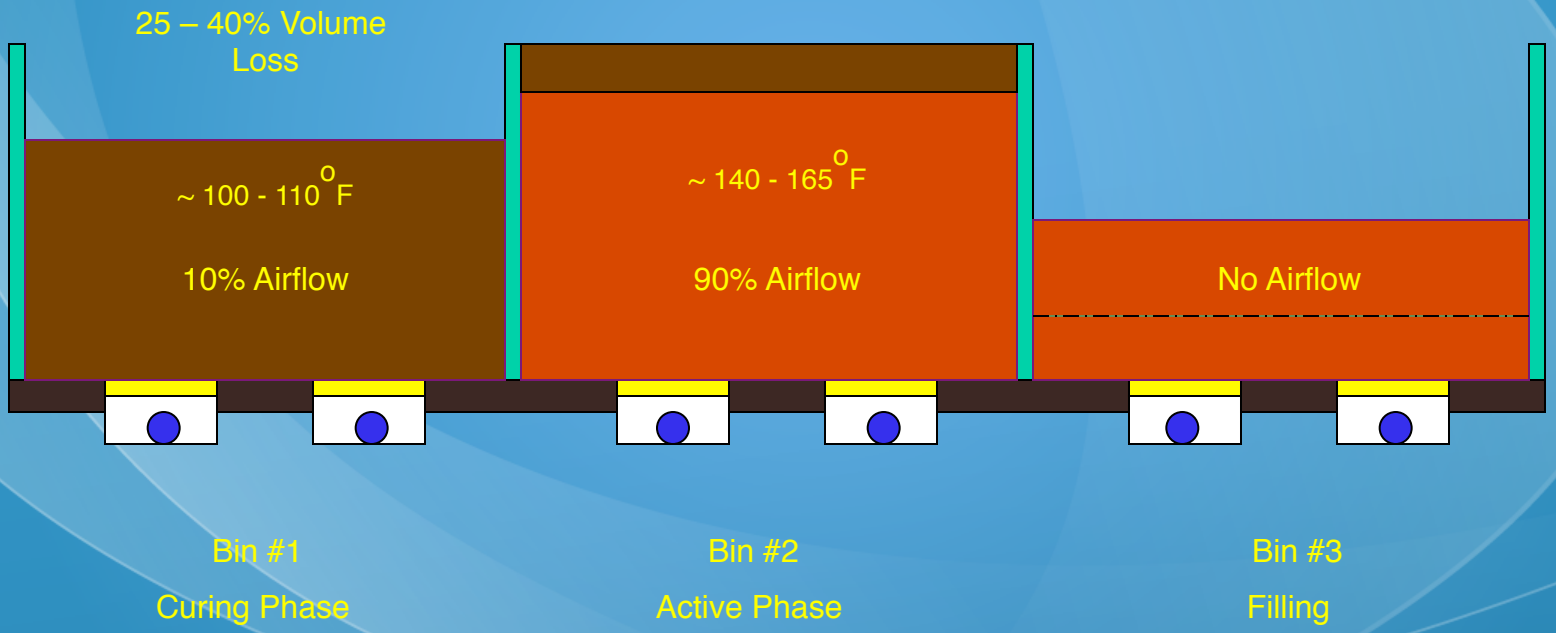

Bin #1
Active Phase

Bin #2
Filling

Bin #3
Empty

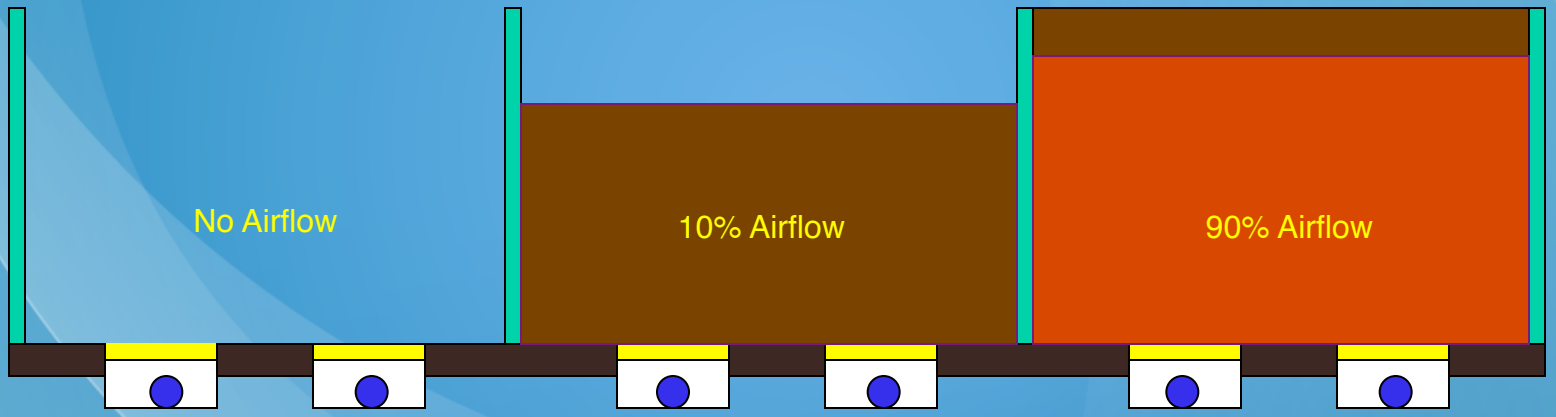
# Cross Section of a 3-Bay System

## Stage 2



# Cross Section of a 3-Bay System

## Stage 3




Bin #1
Ready for Batch #4

Bin #2
Curing Phase

Bin #3
Active Phase

# ST. JOHN'S UNIVERSITY

Queens, New York

# ST. JOHN'S UNIVERSITY


Close Proximity to Dormitories & Public Open Space

# TOM GOLDSMITH

Facilities Manager & Mentor

# COLLECTING FOOD SCRAPS

Student Managed and Operated

# HIGHLY VARIABLE FEEDSTOCKS

Mixed Once Weekly

# MIXING FEEDSTOCKS


Tom Operates Loader

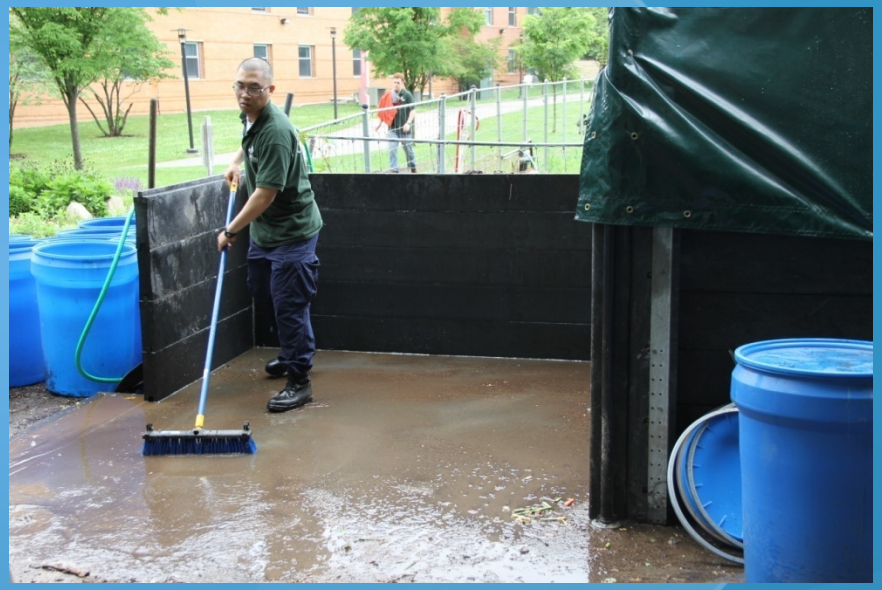
# FILLING THE BIN

~ ½ Bin per Week

# LEVELING & COVERING

Odor and Vector Control

# HOUSEKEEPING



Vectors Have No Access to Food Waste

# CURED, FINISHED COMPOST

30 to 60 Days Curing

# STUDENT GARDEN

Compost Amended Soil

# CROSS POLLINATION

Biology & Environmental Engineering Classes

# LEADERSHIP IN ACTION


Sustainability in Student Cross-Training

# Conduct a Pilot Project

Starting Budget: $1,000 - $1,500

# Conduct a Pilot Project

Gain Hands-on Experience with the Science & Art of Composting:

- Train operations staff
- Develop compost mix recipe(s)
- Learn how to receive and mix raw feedstocks (Odor Mgmt.)
- Learn how to construct the pile
- Monitor and optimize the composting process
- Manage surface water runoff and VOC emissions

# Conduct a Pilot Project

- Pilot Project as a precursor to a Feasibility Study
- Compare Alternative Technologies, small but relevant scale;
- Sort through the logistics of obtaining and processing feedstocks
- Demonstrate the efficacy of the ASP Method to stakeholders
- Produce a finished compost product for lab testing / marketing;
- Establish design basis for full scale compost facility;
- Defined Schedule (beginning and ending = low risk)

# Seeing is Believing

- Determine if permits are required;
- Establish confidence with the regulating agencies;
- Develop reasonable cost model for:
  - ✓ capital investment,
  - ✓ operating costs,
  - ✓ profit and loss projections, and
  - ✓ return on investment;
- Answer the Question, “Can This Be Sustainable”
- Make a Go / No-Go decision quickly and at minimal cost.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