Composting is a novel method of waste disposal that diverts organic materials, such as food scraps and paper, from the landfill to a facility where the waste can be treated and broken down back into soil. Addressing how composting might be a more efficient waste disposal option is a timely and relevant question for retail operations invested in staying current with a green agenda. If your retail operation is interested in integrating compost to your established waste stream, consider taking some basic steps towards assessing the development of a program.
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Retail Template
[Template for any food retail operation]

This template is designed for implementing composting practices in the retail setting. Here are some basic but important questions you’ll need to answer to discern what procedures will work in your facility. Ascertaining as many specifics as possible is important for practical composting solutions.

1. What type of material is produced?

Example:

<table>
<thead>
<tr>
<th>Pre-Consumer</th>
<th>Compost</th>
<th>Food scraps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>Plastic packaging</td>
<td></td>
</tr>
<tr>
<td>Recycle</td>
<td>Cardboard packaging</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post-Consumer</th>
<th>Compost</th>
<th>Food scraps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>Plastic products (utensils, straws, lids)</td>
<td></td>
</tr>
<tr>
<td>Recycle</td>
<td>Plastic bottles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aluminum and metal cans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clean paper (printer paper, newspaper, cardboard)</td>
<td></td>
</tr>
</tbody>
</table>

- Keep in mind some items in your material stream may be a challenge to compost.
  - Consider items composed of alternative materials such as those listed on page 8.

- Conducting a visual assessment quickly determines what type of material is being disposed.
  - Explanation of visual assessment in section 7.
  - Example of visual assessment on page 16, 17, and 23.

2. What changes in your material disposal process need to be made?

Example:

<table>
<thead>
<tr>
<th>Staff</th>
<th>Training how to sort material into proper bins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custodial</td>
<td>Training how to transport material from bin to appropriate dumpster</td>
</tr>
<tr>
<td>Contracted material removal service</td>
<td>Arrange for transportation of organic material to compost facility</td>
</tr>
</tbody>
</table>

- Potential compost facility: Jepson Prairie Organics
  - Site Location:
    Jepson Prairie Organics
3. What amount of material is produced?

- Before starting a compost program determine if the quantity of organic material produced is significant.
- Also, knowing the amount of material produced is important when trying to coordinate material pickups.
- Conducting a physical waste audit is a practical approach to quantifying the amount of material produced.
  - Example of physical waste audit in section 7.

4. New materials needed

- Adding compost to your usual material stream may require additional materials.
- Possible materials needed:
  - Additional bins
  - Compostable bag liners
  - Reusable or paper dishware
  - Reusable or paper napkins
  - Reusable, paper, or PLA cups
  - Compostable utensils, cup lids, and straws
- For a list of possible suppliers reference page 8.

5. Raising Awareness

- Informing customers about the integration of compost practices is crucial.
- Possible methods:
  - On site education with verbal instruction on how to sort material.
  - Signage
    - Physical items pictured or posted onto sign
    - Universal graphic symbol
    - Written instruction
Place labels or logos on misleading compostable materials.
  - PLA plastic-ware can often resemble clear plastics.
  - Paper items often confused for landfill but are actually compostable.

- Keep it simple for the customer.

7. Procedures

- The following are useful ways to assess if a composting program is appropriate for your retail facility.

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Assessment</td>
<td>Examine what type of material is produced and approximate quantities</td>
</tr>
<tr>
<td></td>
<td>1. Observe bin</td>
</tr>
<tr>
<td></td>
<td>2. Note material and approximate percentages of contamination</td>
</tr>
<tr>
<td>Physical Waste Audit</td>
<td>Determine what quantities of each material type are produced</td>
</tr>
<tr>
<td></td>
<td>1. Collect sample of waste</td>
</tr>
<tr>
<td></td>
<td>2. Hand sort into compost, landfill, and recycle</td>
</tr>
<tr>
<td></td>
<td>3. Weigh to quantify amounts</td>
</tr>
<tr>
<td></td>
<td>4. Analyze data—determine diversion and contamination</td>
</tr>
<tr>
<td>Pilot Project</td>
<td>Determine what works well and what creates conflicts before launching a full program</td>
</tr>
<tr>
<td></td>
<td>1. Determine any additional required materials</td>
</tr>
<tr>
<td></td>
<td>2. Consider educational component for customers</td>
</tr>
<tr>
<td></td>
<td>3. Train staff</td>
</tr>
<tr>
<td></td>
<td>4. Secure transportation and collection of compost</td>
</tr>
<tr>
<td></td>
<td>5. Consider doing physical waste audits and visual assessments to track progress</td>
</tr>
</tbody>
</table>

- Example of a pilot project can be seen from pages 9-26.

8. Challenges

- Some challenges you may face:
  - Funding
    - Compostable materials are more expensive.
  - Additional transportation may be required for new material stream.
  - Lack of awareness
    - Composting is a relatively new practice and there are many misconceptions.
      - E.g. Compost smells, separating material is too laborious.
      - Customers as well as employees must be educated.
  - Contamination
Despite efforts to increase awareness there will be mixing of material streams.

Keep in mind that most composting facilities have a maximum percentage of contamination allowed and that loads exceeding this percentage will be landfilled.

9. Keep in mind the benefits of composting.

- By adding a compost program to your retail operation, you are ultimately taking another step towards reducing your operation’s ecological footprint.
- Composting reduces the amount of waste being sent to limited landfill areas, and instead returns nutrients to the earth.
- Composting works towards closing the loop between the waste consumers generate and the soil farmers need to produce goods.
Memorial Union Pre-Consumer Composting

- Collection and Destination of compost
- Cost
- Training employees
- Obtaining Compostable Materials

Collection and Destination of Compost

- Material
  - Compost: food scraps
  - Landfill: plastic packaging
- Material Stream

Bucket in Kitchen
  ↓
Compost Bins
  ↓
Project Compost
  ↓
UC Davis compost load
  ↓
Jepson Prairie Organics
  Dixon, CA

- Bins
  - Emptied twice per week
  - Full prior to emptying
  - Compost:
    - 7 bins
    - 20 gallons each
  - Recycle:
    - 6 carts for glass and plastic
    - 4 dumpsters for cardboard
    - 40 gallons each

Cost

- Interview with Elisa Garcia, student manager at the Coffee House
  - Lack of additional charge makes pre-consumer composting a likely addition to a culinary retail operation.
  - Project compost picks up the compost without tacking on any monetary fee.
  - Composting is a cheaper pre-consumer option relative to sending material to a landfill.
  - Coffee House would have to pay according to the volume of material sent to a landfill.
Training employees

- Coffee House Employees
  - Procedures for disposing of unusable parts of vegetables and other compostable materials.
  - This is the only delivered training that takes place in regards to pre-consumer composting in the Coffee House.
  - Training appears sufficient since the majority of compostable materials seem to make it into composting bins without being contaminated by landfill waste.

- Project Compost Volunteers
  - The Coffee House maintains a long-standing relationship with Project Compost that contributes to the ease of pre-consumer composting.
  - The Coffee House simply contacts Project Compost at the beginning of every quarter to ensure volunteers will be collecting the Coffee House compost.

Obtaining Compostable Materials

<table>
<thead>
<tr>
<th>Operation</th>
<th>Compostable Product</th>
<th>Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee House Current Suppliers</td>
<td>8oz /12oz bowls</td>
<td>Eco-Products</td>
</tr>
<tr>
<td></td>
<td>Hot Coffee Cups</td>
<td>Ecotainer</td>
</tr>
<tr>
<td></td>
<td>Espresso Cold Cups/Lids</td>
<td>Monogram</td>
</tr>
<tr>
<td></td>
<td>Salad Containers</td>
<td>Nature Works</td>
</tr>
<tr>
<td></td>
<td>Plates</td>
<td>Eco-Products</td>
</tr>
<tr>
<td>Coffee House Future Suppliers</td>
<td>Forks, Knives, Spoons</td>
<td>Taterware</td>
</tr>
<tr>
<td></td>
<td>Hot Coffee Cup Lids</td>
<td>Ecotainer</td>
</tr>
<tr>
<td>Silo Current Suppliers</td>
<td>Cups</td>
<td>Eco-Products</td>
</tr>
<tr>
<td></td>
<td>Cutlery</td>
<td>Eco-Products</td>
</tr>
<tr>
<td></td>
<td>Clamshells</td>
<td>Eco-Products</td>
</tr>
<tr>
<td></td>
<td>Plates</td>
<td>Vertera</td>
</tr>
<tr>
<td></td>
<td>Biobags</td>
<td>Bio Tuff</td>
</tr>
<tr>
<td></td>
<td>Bio Take-out Containers</td>
<td>EPS</td>
</tr>
<tr>
<td>Silo Future Suppliers</td>
<td>Plates</td>
<td>Bamboo Studio</td>
</tr>
<tr>
<td></td>
<td>Bowls</td>
<td>Bamboo Studio</td>
</tr>
<tr>
<td></td>
<td>Boats</td>
<td>Bamboo Studio</td>
</tr>
</tbody>
</table>
Organizers
- ASUCD
- Campus Center for the Environment (CCE)
- Coffee House (CoHo)
- Davis Honors Challenge (DHC)
- Project Compost
- R4 Recycling

Coordinators:
- CCE: William Klein
- ASUCD: Bree Rombi
- CoHo: John Seden, Darin Schluep, Edward Andrade
- Project Compost: Valentina Cekovski
- R4: Lin King, Cristal Muñoz
- DHC: Stephanie Sin, Antonina Shapovalova, Gillian Taylor, Serene Musallam, Danielle Sakaguchi.

Purpose: To ascertain the best strategies for implementing a post consumer composting initiative in the Memorial Union come the Coffee House reopening in Fall 2010. Pilot meant to educate and evaluate student response.

Set Up
- Location: Memorial Union, University of California, Davis.
- 9 stations: 7 stations on the 1st floor of the MU and 2 stations on the 2nd floor.
- Three bins at each station: landfill, compost, and recycle (mixed paper, cans, glass, plastic).
- Existing bins were given new labels.
- Educational posters included at half of the sites demonstrated which materials should be composted, recycled, or landfilled.
- Use of compost stickers to mark plant materials that look like plastics (PLAs).

Procedure:
- Pilot ran for 1 week (March 29th-April 2nd), staffed only from 11 am to 2 pm (primarily on the first floor).
- First physical waste audit was conducted on March 30th for waste collected on March 29th.
- A second physical waste audit was conducted on April 6th for waste collected on April 5th.
- There was also a visual waste audit conducted on March 30th and April 6th.

Funding:
- ASUCD bill secured funding for sticker labels.
  - 1000 stickers for $75.
  - Estimated to cover 2 to 3 weeks.
- Campus Unions: Funding for bin labels and poster materials were negligible.

Education: Signage, labels, volunteer educators.

Volunteers: Gathered through environmental group list serves, Facebook event, sororities, fraternities, and Aggie Pack.
Definitions of Terminology

**Biodegrade** - The process where materials break down or decompose by the action of living organisms.

**Compost** - A mixture of decaying organic matter, as from leaves, food scraps, and paper products, used to improve soil structure and provide nutrients.

**Compostable** - A material that breaks down to become what is effectively soil. It contains no toxins and can support plant life.

**Contamination** (as related to compost) - Incorrectly placed material in the compost that should belong in the landfill or recycle bin.

**Diversion** - Diverting material from the landfill, either by composting or recycling.

**Physical waste audit** - A formal, structured process used to quantify the amount and types of material being generated by a specific source. Information from audits will help identify current material practices and how they can be improved.

**PLA** - Bioplastic derived from corn-starch (Fully compostable, sturdy and strong; Clear, plastic-like texture; Freezer safe; Handles hot items up to 120 degrees Fahrenheit; Sterilized and sanitized).

**Recyclable** - Materials that can be collected, separated, processed, and made into new products.


**Zero Waste** - A 'whole system' approach that seeks to reduce the amount of consumption, minimize waste, maximize recycling, and ensure that products are made to be reused, repaired or recycled back into nature or the marketplace.
UC 2020 Zero Waste Goal

UC Recycling and Waste Management

Each campus will submit for certification one pilot building at a LEED-EB “Certified” level or higher by July 1, 2008.

To facilitate the implementation steps for the policy, campuses will develop an inventory of buildings that meet the scope eligibility requirements above, and then group these eligible buildings into categories of buildings with similar operational and maintenance needs. Campuses will submit proposed core credits for one of the building type groupings identified above and any campus wide core credits to the U.S. Green Building Council by July 1, 2009. A core credit is a credit that will be sought for either all scope eligible buildings on a campus, or for all buildings within a building type group.

By July 1, 2009, the University will evaluate efforts to date and develop an implementation plan and funding strategy toward a goal of achieving campus wide LEED-EB certification.

Recycling and Waste Management

a. In response to Public Resources Code Section 40196.3 which states that the Regents of the University of California are encouraged to comply with code Chapter 18.5, the “State Agency Integrated Waste Management Plan” and in support of the California Integrated Waste Management Board’s goal for a “zero waste California”, the University voluntarily adopts the following waste diversion goals:
   • 50% by June 30, 2008
   • 75% by June 30, 2012
   • Ultimate goal of zero waste by 2020

b. All campuses will develop an Integrated Waste Management Plan (IWMP) and funding mechanism by June 30, 2007.

c. Waste reduction and recycling elements shall be integrated in Green Building Design and Sustainable Operation implementation goals and into campus operations as they are developed.

d. The University will seek to develop funding sources for financing waste reduction projects.

Implementation Procedures for Recycling and Waste Management:
• The IWMP will include current and future programs, dates of implementation, funding, and exact diversion numbers intended to meet goals
• For purposes of reporting, the medical centers (and other traditionally exempted entities) (Satellite locations) at various campuses will be required to report solid waste and recycling tonnage to the campus entity collecting data for the report. Medical Centers and other exempted facilities are also required to meet diversion requirements. Exceptions will be considered for those entities which represent less than 1% of the overall campus solid waste tonnage.
Bin Locations:

- Hall facing bus terminal
- Hall by elevator
- Griffin Lounge
- Hall by STA
- Hall by CoHo

MU 1ST FLOOR:__________________________
I. Week 1

A. Physical Waste Audit
March 29, 2010 collected
March 30, 2010 audited
Location: Memorial Union Coffee House, 1st floor and 2nd floor Art Lounge and MU II
Coordinators: R4 Recycling: Lin King, Cristal Muñoz, DHC

The Numbers
Total staff: 4: 1 from R4 Recycling, 3 from the Davis Honors Challenge

Recycling: 6.7 lbs – Mixed bottles and cans, aluminum foil
Compost: 67.5 lbs – Napkins, food scraps, paper plates, cups, PLA 7 clamshells
Mixed Paper: 1.2 lbs – Mostly paper products (newspaper, etc.)
Landfill: 16.1 lbs – coffee lids, plastics (utensils, straws, and clam shells), zip locks

Amount of diversion: 74%

Analysis/Comments:
Data was largely incomplete—data was not calculated for content percentages of each bag, which was needed. Errors due to miscommunications regarding bag labels and the detailed information needed for statistical analysis.

B. Visual Assessment
Tuesday, March, 30th, 2010, 1pm

<table>
<thead>
<tr>
<th>Location</th>
<th>Educational Component</th>
<th>Compost</th>
<th>Landfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1 1st floor hall by CoHo Espresso</td>
<td>Labels</td>
<td>Clean</td>
<td>~90% divertible; teabag paper plates napkins</td>
</tr>
<tr>
<td>L2 1st floor hall by STA</td>
<td>Labels, Poster board, Supervised</td>
<td>Clean</td>
<td>~10% divertible; paper plate and napkins</td>
</tr>
<tr>
<td>L3 1st floor hall (R side if facing bus terminal)</td>
<td>Labels</td>
<td>Clean, one chip bag</td>
<td>~60% divertible; paper plates and bowls</td>
</tr>
<tr>
<td>L4 1st floor hall (L side if facing bus terminal)</td>
<td>Labels</td>
<td>Clean, one fork and straw</td>
<td>~40% divertible; paper plates, napkins</td>
</tr>
<tr>
<td>L5 1st floor by elevator</td>
<td>Labels, Poster board</td>
<td>Clean</td>
<td>&lt;10% divertible; paper cup, plastic bottle</td>
</tr>
<tr>
<td></td>
<td>Griffin Lounge (R if facing exit)</td>
<td>Signs</td>
<td>Clean</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>L6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L7</td>
<td>Griffin Lounge (L if facing exit)</td>
<td>Signs</td>
<td>Clean, one coffee lid</td>
</tr>
<tr>
<td>L8</td>
<td>Art Lounge</td>
<td>Labels</td>
<td>Clean</td>
</tr>
<tr>
<td>L9</td>
<td>MUII</td>
<td>Labels, Poster board</td>
<td>~10% contaminated; plastic spoon and small clam shell</td>
</tr>
</tbody>
</table>

**Table 1**—Visual Assessment Week 1

**Assessment:**
- Stations with 3D poster boards with actual items glued and/or supervision seemed less contaminated.
- Compostable items commonly mistaken for landfill: paper plates, napkins, paper cups.
- Compost < 10% contaminated.
- Compost bins contained regular clear plastic bags rather than green compostable bags.
- Not enough volunteers to staff all stations.
- Some people avoid supervised stations and go to unsupervised stations.
II. Week 2

A. Physical Waste Audit
April 5, 2010 collected
April 6, 2010 audited
Location: Memorial Union Coffee House, 1st floor and 2nd floor Art Lounge and MU II
Coordinators: R4 Recycling: Lin King, Cristal Muñoz, DHC

The Numbers
Total staff: 4: 1 from R4 Recycling, 3 from the Davis Honors Challenge

Recycling: 8.9 lbs – Mixed bottles and cans, aluminum foil
Compost: 80.6 lbs – Napkins, food scraps, paper plates, cups, PLA 7 clamshells
Mixed Paper: 2.4 lbs – Mostly paper products (newspaper, etc.)
Landfill: 38.5 lbs – coffee lids, plastics (utensils, straws, and clam shells), zip locks

Amount of diversion: 70.5%

Analysis/Comments:
The material filled 8 yellow bins and included approximately 42 bags total.
- 16 compost bags (9 clean, 7 with an average of 16.9% contamination).
  - Contaminants included: coffee lids, straws, salad dressings cups, and utensils.
- 17 trash bags (2 with zero diversion rate, and 15 with an average of 48.8 % compost diversion rate—doesn’t include recyclables).
  - Compostable materials found in bags included: paper plates, napkins, some PLA 7 clamshells, and food scraps.
- 9 recycle bags.
- Problems with bag labels; data was limited in evaluating the success of the educational components (i.e. posters, volunteers, etc.) of each specific location.

![Picture 1] – An example of problem items in the compost (coffee lids, utensils).
## Data

**Table 2**—Compost bags collected during 2\textsuperscript{nd} physical waste audit.

<table>
<thead>
<tr>
<th>Location #</th>
<th>Compost (lbs)</th>
<th>Trash (lbs)</th>
<th>B&amp;C (lbs)</th>
<th>Mixed Paper (lbs)</th>
<th>Contamination (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>1.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>2.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>4.1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>4.7</td>
<td>0.7</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Unmarked A</td>
<td>3.5</td>
<td>0.7</td>
<td>0</td>
<td>0</td>
<td>16.3</td>
</tr>
<tr>
<td>Unmarked B</td>
<td>3.1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unmarked C</td>
<td>3.3</td>
<td>0.7</td>
<td>0</td>
<td>0</td>
<td>17.5</td>
</tr>
<tr>
<td>Unmarked D</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unmarked E</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unmarked F</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unmarked G</td>
<td>10.7</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>8.5</td>
</tr>
<tr>
<td>Unmarked H</td>
<td>5.3</td>
<td>0.6</td>
<td>0</td>
<td>0</td>
<td>10.2</td>
</tr>
<tr>
<td>Unmarked I</td>
<td>2.5</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>28.6</td>
</tr>
<tr>
<td>Unmarked J</td>
<td>3.1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>24.4</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>55.9</strong></td>
<td><strong>5.7</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Compost, trash, bottles/cans, and mixed paper columns list the amount of respected items found in each compost bag in weight (lbs). The last column shows the contamination rate for each respected compost bags in percentage. If load is > 10% contaminated it is considered to be too contaminated to send to Jepson Prairie Organics.

**Table 3**—Trash bags collected during 2\textsuperscript{nd} physical waste audit.

<table>
<thead>
<tr>
<th>Location #</th>
<th>Compost (lbs)</th>
<th>Trash (lbs)</th>
<th>B&amp;C (lbs)</th>
<th>Mixed Paper (lbs)</th>
<th>Compostable %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0.4</td>
<td>0.9</td>
<td>0</td>
<td>0</td>
<td>30.7</td>
</tr>
<tr>
<td>3</td>
<td>1.2</td>
<td>1.2</td>
<td>0</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>3.1</td>
<td>1.9</td>
<td>0</td>
<td>0</td>
<td>62</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1.7</td>
<td>0</td>
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<td>0</td>
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<td>1.2</td>
<td>0</td>
<td>0</td>
<td>57.1</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
<td>61.9</td>
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<tr>
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<td>9</td>
<td>0</td>
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<td>59</td>
</tr>
<tr>
<td>Unmarked N</td>
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<td>1.3</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Unmarked O</td>
<td>0</td>
<td>0.9</td>
<td>0</td>
<td>0</td>
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<tr>
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<td>0</td>
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<td><strong>Total:</strong></td>
<td><strong>22.3</strong></td>
<td><strong>28.5</strong></td>
<td><strong>0.8</strong></td>
<td><strong>0</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Compost, trash, bottles/cans, and mixed paper columns list the amount of respected items found in each trash bags in weight (lbs). The last column shows what percent of the waste found in the respected bags was compostable.
Figure 1—Total Diversion Rate of all waste collected during 2nd waste audit.

Figure 2—Total waste collected at each location (compost, trash, bottles and cans, and mixed paper) during 2nd waste audit.
Compost—Contamination Rate

**Figure 3**—Percent contamination of 7 contaminated bags only.

**Figure 4**—Percent contamination of 7 contaminated and 9 clean bags.
Trash—Compost Diversion Rate

Figure 5—Percent of compostable material found in 15 landfill bins that contained divertible material.

Figure 6—Percent of compostable material found in all landfill bags.
B. Visual Assessment
Tuesday, April 6th, 2010, 1pm

<table>
<thead>
<tr>
<th>Location</th>
<th>Educational Component</th>
<th>Compost</th>
<th>Landfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1 1st floor hall by CoHo Espresso</td>
<td>Labels</td>
<td>Clean</td>
<td>Clean</td>
</tr>
<tr>
<td>L2 1st floor hall by STA</td>
<td>Labels, Poster board, Supervised</td>
<td>~10% contaminated; forks, coffee lids, small wrapper</td>
<td>~60% divertible; paper plates, napkins, coffee cup</td>
</tr>
<tr>
<td>L3 1st floor hall (R side if facing bus terminal)</td>
<td>Labels</td>
<td>Clean</td>
<td>~50% divertible; paper plates, napkins</td>
</tr>
<tr>
<td>L4 1st floor hall (L side if facing bus terminal)</td>
<td>Labels</td>
<td>Clean</td>
<td>&lt;10% divertible; paper bowl, napkins</td>
</tr>
<tr>
<td>L5 1st floor by elevator</td>
<td>Labels, Poster board</td>
<td>Clean</td>
<td>~40% divertible; coffee cup, napkins</td>
</tr>
<tr>
<td>L6 Griffin Lounge (R if facing exit)</td>
<td>Signs</td>
<td>Clean</td>
<td>~70% divertible; paper plates, napkins</td>
</tr>
<tr>
<td>L7 Griffin Lounge (L if facing exit)</td>
<td>Signs</td>
<td>Clean; missing bag</td>
<td>~60% divertible; paper plates, napkins</td>
</tr>
<tr>
<td>L8 Art Lounge</td>
<td>Labels</td>
<td>~30-40% contaminated; coffee lid, Pringles can, plastic forks</td>
<td>~50% divertible; paper plates, napkins</td>
</tr>
<tr>
<td>L9 MUII</td>
<td>Labels, Poster board</td>
<td>Clean</td>
<td>~20% divertible; paper plates, napkins</td>
</tr>
</tbody>
</table>

Table 4—Visual Assessment Week 2

Assessment:
- Overall, bins look to be better sorted, less contaminated.
- The same items are being confused (paper plates, bowls, napkins, coffee lids).
- The correct compost bags made it into bins this time.
- When auditing, it was noticed that some are making an effort and some are blatantly disregarding the signs.
**Analysis:**

- Over 70% of the waste coming out of the MU/Coffee House is compostable.
- Educational posters/volunteers were helpful in informing students about which items from the CoHo were compostable; compost bags from such stations were either clean or had little contamination.
- During the 2nd waste audit in week two, the majority of the compost bags came out clean. Bags that were contaminated, on average, had greater than a 10% contamination rate.
- Problematic items in the compost:
  - Coffee lids, utensils, straws, salad dressing cups.
- Compost stickers on compostable PLA 7 materials helped students to properly identify and dispose of these items; however, only when students actively took notice.
- About 50% of the items thrown into the landfill bins were compostable.
- Problematic items in the landfill:
  - Paper plates, napkins, compostable PLA clamshells (look like plastic).
- There is still confusion when it comes to recycling or composting paper. A clear distinction needs to be made and practices kept uniform.

**Examples of confusing items:**

**Picture 2**—Paper plates and napkins in the landfill bin.

**Picture 3**—Coffee lids, utensils, and other non-compostable items in the compost bin.

Both pictures were taken in week 2.
Conclusions

What Worked Best:
- Signage (Educational poster boards and bin labels)
- Sticker labels on PLAs

What Didn’t Work:
- Lack of coffee lid signage
- Specific to Pilot: faulty communication concerning pilot set up and procedure (misplaced bags, lack of labels)

Suggestions:
- More Publicity
- Signage directly on lid of bin
- Posters at every station
- Increase compost signage at food pickup stations specific to that location
- More unified, well-trained volunteer educators (provide incentives—yellow handkerchief/t-shirt)
- Train CoHo staff to remind customers to compost (specifically point out certain packages)

Picture 4—Compostable sticker placed on PLA items to help students identify compostable items sold at the Coffee House.

Picture 5—Bin signage in Griffin Lounge.

Picture 6—Educational posters and bins.
**Recology**

**Jepson Prairie Organics, Inc.**

6462 Hay Road  
Vacaville, Ca 95687  
Hours of operation: 8am to 4pm, 7 days a week  
Kim Carrier (800) 208-2370

**About Jepson Prairie Organics (JPO)**

- Currently receives compost from:
  - University of California at Davis
  - City and County of San Francisco
  - City of Vacaville
  - City of Dixon
  - California Medical Facility
- Largest food waste composting operation in California.
- Processes 400 tons of food waste per day.
- Processes 100,000 tons of organics each year.
- Sells material to landscape supply yards, vineyards, golf courses, and organic farmers.
- Quality assurance program includes routine nutrient, metals, and pathogens analysis.

**The composting process at JPO:**

1. Sort and grind the material for size reduction
2. Place in 30 day in vessel system—controls run-off and odor emissions.
3. Place in 30 day in place turning process.
4. Screen material up to 3/8 in.
5. Compost is then ready for sale.

**Key points about JOP**

- Recently OMNI certified.
- Does not accept PLA items.
  - Retail operations should lean towards paper or bamboo products.
- Continually implementing new technologies.
  - Biofilter traps 95% of Volatile Organic Compounds (VOCs).
  - Sorting by machine and by hand to reduce contamination.
COMPOST FILLS TRASH BINS IN MU DESPITE AVAILABILITY OF COMPOST BINS

ASUCD Coffee House patrons have a new way to be environmentally friendly with the addition of eight composting bins in the Memorial Union.

After meeting with representatives from Campus Unions, Davis Honors Challenge and the CoHo, ASUCD launched a program to see how well UC Davis students could learn to compost.

"There are a lot of things that the CoHo sells that look like just plastic but are actually compostable," said Bren Rombi, a sophomore communication and Spanish major and ASUCD senator.

Inspectors above the re-designed garbage, compost and recycle bins are meant to teach patrons what products belong in each bin. Every consumer product the CoHo uses is physically glued to one of these posters.

ASUCD purchased 1,000 gold labels to establish which CoHo items are compostable, costing approximately $75.

Food waste, paper napkins, paper plates and other labeled containers can be composted. While Cork coffee cups are compostable, the lids are not.

Even though the lids are marked with recycling symbols, only number one and two plastics should be placed in recycling bins in Davis.

When confused about where to place waste, Rombi urges consumers to use the garbage bin entitled "landfill." Compost is compacted into blocks, and it too many items that are not compostable are found, the entire block becomes garbage.

"It's a waste for the things that were in the bin to be compostable, if there is too much contamination," Rombi said.

DHC students performed an audit of the garbage, compost and recycle bins and determined that 75 percent of the items placed in the landfill bin could actually have been composted.

The addition of compost bins holds no extra cost with the exception of the trash bags used. While the normal bags are 8 cents each, the biohazard bags required for composting are 80 cents each.

— Janelle Bilker
— Photos by Deatra Yevani

Today's weather

Mostly sunny
High 58
Low 42

Forecaot:
After a pleasant end to winter quarter, it looks like we have a few more wet days before spring quarter actually becomes spring quarter. Plan on a dry Thursday, with another storm moving in Friday into the weekend.

Alex Neigher, atmospheric science major
Apple Forecasting Team

Friday: Chance of rain
High 57
Low 45

Saturday: Chance of rain
High 59
Low 43

IN OTHER NEWS

The California Apple has decided to remove itself and we've started by throwing conventional rules out the window.

Happy Ignorance Awareness Day!

Becca Moore