

Andover High School's Cafeteria Compost and Recycling Program

Prepared by Carolyn Dann, MassDEP

Start-up Issues

- DPW Concerns
 - Will the program be sustained in the future?
 - Who will be the point of contact for problems?
 - What happens if there's too much compost or not enough space or too much snow?
 - Can they arrange for collection of the additional recyclables by adjusting the collection frequency and/or number of wheeled carts available for recycling?
 - Make sure it wouldn't add to the town's costs
- Building Superintendent
 - Is location of bins OK with regards to parking, access for trucks and deliveries, snow removal, air intakes for the building.
 - Will the compost bin be sure to not attract pests?
- Health Dept - had to OK with regards to kitchen and food preparation
- Conservation Commission had to OK with regards to runoff from compost bins
- Principal had to OK with regards to time and priorities for custodians
- Custodians
 - had to OK with regards to balancing their other demands during lunch
 - had to estimate the volume of each component and determine number of collection stations and size of barrels for each component,
- Teachers needed to be informed who were on lunch duty what they were being asked to do, if anything
- Food service manager needed to be asked if he could contribute food prep waste

Initial Decisions

- What will change from last year?
- What materials will be collected as compost?
- What recyclables will be collected?
- How will liquids be handled?
- How much space will be needed to handle the food waste, liquids, and recyclables compared to the remaining trash?
- Will there be biodegradable cutlery, plates, cups?

Overview

- 8 New Separation Stations with sections for:
 - Draining all liquids (funnels set into holes in lids)
 - Collection of empty bottles and cans (no paper)
 - Collection of simple compostables (fruits, vegetables, brown paper bags; NO dairy or meat)
 - Collection of residual trash

Sources and Uses of Funds

Sources

• Senior Gift	\$1200
• DPW	4000
• Custodian Budget	<u>1300</u>
• Total	\$6500

Uses

• 8 stations	\$4300
• Lumber, etc	200
• Signs, banner	800
• Compost bins	DEP
• Extra barrels	<u>donated</u>
• Total	\$5300



1 of the 8 Sorting Stations in the Cafeteria for 1800 Students

Informing the Students

- At the end of the previous year, there should be a student leader designated for the next year.
- At the start of each year, the student leader for the year organizes and runs:
 - An introduction for 9th Grade orientation (August);
 - Something to alert everyone on Day 1; and
 - A presentation for each of the class meetings.

9th Grade Orientation Recycling Relay



Day 1!

- The Student Leader(s) have enlisted the support of Coach Fazio and his gym classes that occur during lunch hours on Day 1 of school.
- Last year, Coach Fazio:
 - made a loud announcement to interrupt lunch,
 - brought his classes into the cafeteria with balls of 4 different colors or types; and
 - had the students toss the balls around and then toss them into the appropriate color-coded bags to indicate the 4-way sorting at lunch.
 - Carolyn Dann has the supply of balls and clear plastic bags with hoops for collecting the balls.

Other Outreach

Using Consistent Design and Color

- Posters on columns in cafeteria
- Laminated “how-to” pages on each table for the first year
- Signs on each of the separation stations

Table-top Info

The “How To’s” of making



LIQUIDS

- Milk
- Yogurt drinks
- Smoothies
- Coffee
- Water
- Lemonade
- Iced tea
- Gatorade
- Juice



RECYCLE

- ***EMPTY!!!***
- Plastic Bottles
 - Aluminum Cans



COMPOST

- All vegetables
 - All fruit (rinds, peels and cores)
 - Crumpled up brown paper bags
- VERY IMPORTANT
- No meat
 - No dairy
 - No peanut butter
 - No dressed salad



TRASH

- Plastic utensils
- Straws
- Candy and chip wrappers
- Plastic bags
- Yogurt and yogurt containers
- Pizza
- Wax orange juice or milk containers
- Styrofoam trays

What To Compost in the Cafeteria?



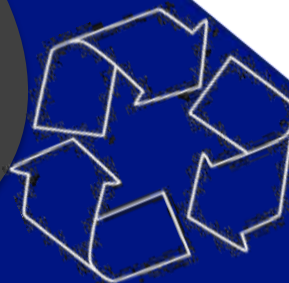
Liquids

■
■

Down The
Drain



Bottles & Cans: Recycle the Empties





Trash: The Rest



Other Outreach

- Class Meetings for each grade included a presentation by a student on the cafeteria program
- Adult volunteers provided oversight of the sorting stations for the first 8 weeks

How Does It Work?

- Liquids - AHS accepted all liquids and the custodians suggested just draining them into the “slop sink” drain as often as needed.
- Recyclables – AHS accepted only clean, empty bottles and cans. No paper, even though the town allows Single-Stream Recycling (SSR) because the containers were designed for bottles and cans and it kept the materials cleaner.
- Compostables – AHS was composting on-site so only wanted fruits, vegetables, and brown paper bags.

Emptying Liquids

Custodians move all the liquids barrels into a line to move them.



They empty them in the floor drain in the kitchen and rinse them



How To Empty Compostables?

- First, compost barrels are assembled into one line.
- Custodians have chosen to consolidate several barrels into a few very full ones.
- By using clear plastic bags, they can identify and hold onto any contaminant like recyclable bottles and cans.



Emptying Compost

- Before heading outside, custodians add warm water to the bags to soften and break down the large number of brown paper bags. It also helps get water into the compost.



Emptying Compost

- Next, the barrels are wheeled up the ramp to the outside to a 64-gallon barrel that is used as the temporary parking place for compostables. Custodians leave the bags in the barrels.
- The Environmental Club students come during 3rd or 4th block study periods or after school to empty them into the compost bins and add leaves as needed.



Environmental Club's Role

- Collect the food prep waste from the cafeteria using the 13-gal green wheeled cart.
- Empty compostables from the temporary holding barrels outside into the compost bins.
- Add leaves to the compost bins.
- ~12 bags of leaves were stockpiled in the fall from one home.





How to Compost On-site?
DEP's Ann McGovern Shows Us How

What Needs To Be Done During the Year

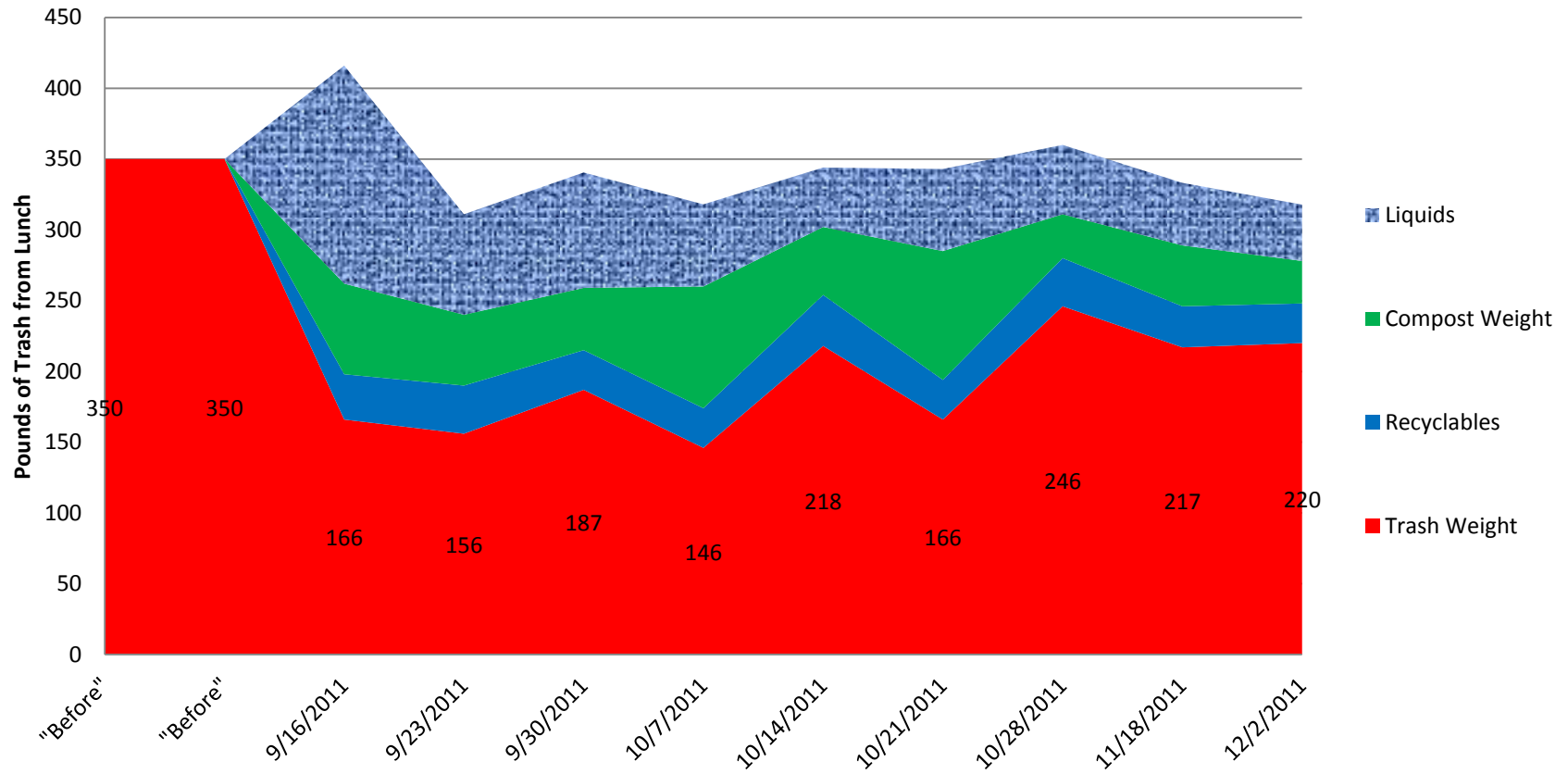
- Make sure there is a supply of leaves in Sept.
- Daily add leaves to cover exposed food waste each time food waste is added.
- Monthly turn each bin using a pitchfork or hoe (i.e., dig around in the compost bin to bring lower, more composted material to the top and move the newer material around getting air and microbes well distributed).
- Harvest in the Spring but leave some compost as starter for next year.

Harvesting

- Take the top material out of the bin and put it aside (on a tarp) or into another bin.
- Remove the composted material but leave 6" of composted material at the bottom.
- Replace the top material.
- Screen the compost to remove contaminants.

How Low Can We Go?

How Low Can We Go?
Before, all this went in the trash!



Challenges

- Not enough trash capacity initially.
- Need for oversight at every separation station in the cafeteria for first few weeks.
- Yellow jackets attracted to the exposed fruit in the late fall overwhelmed everyone.
- Need for encouragement/feedback mid-year.
- Cold weather slowed down the composting process in November, which meant bins were filling too fast. Solution was that we added two more bins and a lot of Starbucks coffee grounds for a week to accelerate the composting.
- Exam week schedule and semester changeover means occasional missed days so the buffer of the extra barrels is important.
- Changes to school schedule – end of semester, exam periods, Blue and Gold alternating days, changing sports schedules all make it a challenge to maintain a schedule of helpers from Env'l Club.
- Continuing the progress and excitement after a few months.
- Training ALL custodians so that when there is a substitute, the operation still works.

On-site vs. Off-site Composting

On-site Composting

- Inexpensive
- Can handle some contamination
- Requires oversight, occasional turning, and harvesting
- Not easy to replicate in other schools or expand to kitchen scraps

Offsite Composting (5 64-gal barrels, 1/wk collection)

- More expensive (+\$1000-2000/year)
- Less need for oversight
- More materials able to be diverted
- Any overflow food waste can always go into trash dumpster
- More likely to be replicable at other Andover schools

What Changes with Off-site Composting?

- Custodians put food waste into barrels for collection
- Hauler removes contents of barrels weekly
- Students only involved occasionally
 - Whenever they can, they can divert the food waste into a compost bin and cover with leaves
 - In the spring, they can harvest finished compost

Benefits of Compost!

- Fertilizer - The harvested compost is valuable for the AHS Sustainable Garden.
- Education - It also can be incorporated into Biology classes as was done in 2012 when a student studied compost's impact on growing radishes.



What Does It Take To Do This?

1. At least one dedicated student
2. At least one supportive teacher
3. A supportive Principal

Once you have these 3, you can make it happen by finding the rest of what you need

- Outside assistance from a community member and/or DEP Green Team or staff
- Grants from the Green Team and/or DEP
- Support from students in environmental clubs, parents, garden club and others.



MassRecycles Recognizes Award-Winning Results:
40-60% Less Trash Every Day!

Thanks, GOLD AWARD Team!

- Al Cataldo and all AHS Custodians
- Dr Sharkey, Mr Phillips, Ms Cutler, Ms Shenker and many other AHS staff who encouraged, supported, and helped.
- AHS Students and Alumni
- Ed Ataide and Plant & Facilities Dept
- Sandy Gerraughty, DPW
- Tom Carbone, Health Director
- Andover Recycling Committee
- Sustainable Andover, parents, friends, and other interested residents