

Recycle Hawaii

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COMPOSTING IS RECYCLING, TOO

INITIAL PROJECT REPORT

JANUARY 27, 2006

SAMPLE SURVEY OF EARTH MACHINE RECIPIENTS

**CONDUCTED BY RECYCLE HAWAI'I STAFF AND PIPER SELDEN, "THE
WORM LADY" –HAWAI'I RAINBOW WORMS**

**FUNDED BY THE COUNTY OF HAWAI'I, DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**

COMPOSTING SURVEY REPORT

Beginning Earth Day, April 22, 2005, Earth Machine composting bins were distributed to 12 West Hawaii schools, 9 North Hawai‘i schools, and 7 East Hawai‘i schools as part of a “Composting is Recycling, Too” program. Of the 30 schools utilizing Earth Machines as environmental science and horticulture/agriculture instructional tools, five schools asked for and received multiple Earth Machine (EM) units – from 2 – 12 per school. A total of 43 EMs were delivered to island schools, including a Kamehameha Schools/YMCA summer camp and Kona Krafts (ARC of Kona). Schools using EMs for composting recycle shredded office paper, cardboard, cafeteria kitchen scraps and campus grounds clippings and use the resulting compost material for a variety of on-campus beautification projects. Those schools using multiple units, such as Pa‘auilo School (9 active bins) to produce compost on a rotational basis so that some bins are finishing the composting process while others are in various stages of composition. The EMs are made from recycled plastic beverage containers.



Specifications

Size Dimensions	33"H x 33" x 34"
Capacity	10 cubic feet or 80 gallon
Weight in lbs.	20#
Composition	UV resistant recycled polyethylene
Usage	garden and kitchen waste
Key Features	durable, lightweight design
Warranty	10 years

Out of a total of 336 units ordered to initiate the program, in addition to the schools County of Hawai'i Department of Environmental Management and Recycle Hawai'i staff distributed 281 EMs to Hawai'i County residents between April and the fall of 2005. Twelve units (not represented in this survey) were distributed to educators and County staff as demonstration models.

A telephone survey was administered to obtain user feedback on the "Composting is Recycling, Too" Program from November 2005 to January 2006.

Earth Machines distributed:	324 - Late April – November, 2005 & ongoing
Telephone Survey Period:	November 2005 – January 2006
Results Compiled:	January 2006
# Telephone Survey Calls:	324
# Survey Responses Received:	100 (including school representatives with multiple units)
Overall Response Rate:	31%

Narrative Summary of Results:

Apart from EMs distributed to schools, many participants in the survey received their Earth Machine (EM) for attending ongoing series of Recycle Hawai'i composting/vermiculture workshops and a "Creative Living" home expo in West Hawai'i in August. Nearly 60 percent of EM recipients were in the process of recycling their kitchen waste and yard clippings at the time of the telephone interviews.

Overall, the survey respondents were very pleased with the Earth Machine composting bin. Result highlights were as follows:

- 59% of respondents had started using the Earth Machine,
- 82% are pleased with the functions of the Earth Machine,
- 82% did not have usable compost as of the time of taking the survey
- 87% think we should invest tax dollars in distributing more EMs,
- 47% had composted before receiving the EM using other systems or methods

Most respondents had started using their EMs, though many who received their units more recently were not able to report on having a finished compost product that typically takes from 3 - 6 months using this particular type bin. Of the 59 percent of respondents already using their EM, the number of gallons of recyclable materials (office paper, cardboard, kitchen scraps, yard clippings) per month being diverted into EM bins ranged from an estimated 1-2 gallons to 60+ gallons, averaging 20 gallons per month.

The survey results show that the "Composting is Recycling, Too" program is the County's most economical waste diversion program. Of the 59 participants actively using their EMs, an average of 20 gallons of material diverted per month, the program demonstrates the following diversion rate: 240 gallons per composter per year @ 7.5 pounds per gallon = 1,800 pounds per composter. The projected life of an EM is 10 years, so an average of 18,000 pounds, or approximately 9 short tons will be diverted over the life of each composter. At a cost of \$45 each, **the cost for the program is \$5.00 per ton.**

The program reinforces waste diversion strategy, and promotes education and awareness among students and Hawai'i Island residents toward waste generation and diversion. Dozens of composting/vermiculture participants are currently on a waiting list to receive EMs after the initial supply was distributed.

SURVEY RESULTS:

1. Have you started using your Earth Machine?

Response	Percent of Respondents	Number of Responses
Yes	59%	59
No	37%	41

2. How much material do you add monthly, that would have otherwise ended up in your garbage? (Estimate gallons/month) (of 59 with active units):

57 Responses (2 “don’t know”), Average – 20.19 gallons per month

3. Have you ever composted before?

Response	Percent of Respondents	Number of Responses
Yes	47%	47
No	53%	53

4. About how long does it take your materials to make usable compost?

Of 59 in process – 49 did not yet have usable compost at time of survey

6 months - 8

3 months – 1

1 months - 1

5. Problems with Earth Machine (of those 59 with active units):

Response	Percent of Respondents	Number of Responses
No Problems	39%	23
Difficult to turn compost	32%	19
Too slow/passive	7%	4
Too dry due to lid	5%	3
Slugs/snails	3%	2
Mongoose	3%	2
Mouse	1.6%	1
Flies	1.6%	1
Difficult to snap (middle piece)	1.6%	1
Small capacity	1.6%	1
Difficult to remove compost	1.6%	1
Difficult to open	1.6%	1

6. Are you pleased with the features and functions of the Earth Machine?

Response	Percent of Respondents	Number of Responses
Yes	82%	82
No	2%	2
No Response	16%	16
Comments:	Sturdy	Easy to assemble

7. Would you recommend any different or additional features for a composting system?

Response	Percent of Respondents	Number of Responses
Easier to turn/stir/aerate	2%	2
Easier to move from one location to another	2%	2
Add a second opening to get to the compost	1%	1
Larger unit	1%	1
Handle	1%	1

8. Have you attended any backyard composting workshops?

Response	Percent of Respondents	Number of Responses
Yes	47%	47
No	48%	48
No Response	4%	4

8a. If yes, would you be interested in attending another workshop?

Response	Percent of Respondents	Number of Responses
Yes	38%	38
No	8%	8
No Response	54%	54

9. What topics would interest you in a composting workshop?

Response	Percent of Respondents	Number of Responses
Recycling in general	1%	1
Worm composting	3%	3
Troubleshooting common problems	1%	1
Composting for cash	1%	1
Effective micro-organisms	1%	1
How to make compost tea	2%	2
Refresher workshop	1%	1
On-site workshops for schools and large businesses	2%	2
Composting other items, e.g., meat, fish, human waste, pet waste	2%	2

Cremation	1%	1
Accelerating the composting process	1%	1
Organic vegetable gardening	1%	1

10. Would you recommend that the County invest tax dollars in purchasing more composting bins for public distribution?

Response	Percent of Respondents	Number of Responses
Yes	87%	87
No	0%	0
Don't Know	5%	5

11. How would you rate the Earth Machine Composting System?

Response	Percent of Respondents	Number of Responses
Excellent	15%	15
Good	15%	15
Fair	5%	5
Poor	2%	2
No Response	61%	61
Additional Comments:	Did not have unit long enough to rate; nothing to compare	61
	Prefer Presto Hoop	1
	Prefer rolling type	1

12. Do you have any other comments about your experience with the “Composting is Recycling, Too” [Earth Machine] Program?

1. It's working out at our school in recycling office paper and the whole school can get involved.
2. "Good so far, love the usefulness for kitchen extras and appreciate the extra soil (when it's done)."
3. "The presenter was excellent (Piper), she was really funny."
4. "Thank you for the composter. I didn't use it enough, but passed it on to someone who uses it."
5. "I learned a lot from the workshop. I didn't know I could compost paper and cardboard."
6. "Worms are great! Thank you for the workshops."
7. "Piper was a good teacher."
8. "I learned how to keep flies from swarming around my compost pile. Thank you for the composting program!"
9. "I'm glad that County of Hawaii sees how important it is for people to learn how to compost."
10. "The speaker was down to earth and humorous."
11. "I never knew composting could be fun!"
12. "This is an important part of our outreach. We like to partner with organizations like Recycle Hawaii to improve the community" (Police Department, Ookala Clean up program).
13. "Although I haven't installed it yet, I'm glad I have it and am looking forward to getting started once my new house is ready."
14. "The workshop was well organized, good concise information."
15. "Ms. Selden was extremely informative and fun too."
16. "I feel more empowered to have and make good compost."

17. "Enthusiastic, great presentation."
18. "Workshop covered everything, including stuff I didn't even know I didn't know."
19. "This workshop was very comprehensive."
20. "Piper is an enthusiastic and knowledgeable instructor. She is a great asset to Recycle Hawaii and the County!"
(Sharon Joy Ennis, Kapoho)
21. "I want improved recycling programs"
22. "Contained/waterproof - good"
23. "neat/clean"
24. "bottom drawer is good"
25. "lid is good - no odor"



Donna Mits, instructor at Pa'auilo School where nine Earth Machines are being used both for instructional as well as providing compost materials for their gardening and campus beautification projects. School shredded office paper, kitchen scraps, and campus grounds clippings are recycled systematically on site.