



# **Summary of Composting Survey**

## **Conducted in Alameda County**

Prepared for:

### **Alameda County Waste Management Authority / StopWaste.org**

by:

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## A. METHODOLOGY

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The following executive summary highlights results of the October 2005 public opinion survey conducted by the Evans/McDonough Company (EMC) for the Alameda County Waste Management Authority (ACWMA) on composting in Alameda County.

A telephone survey of 512 residents of Alameda County was conducted by trained, professional interviewers October 19-27, 2005:

- 162 respondents were selected from a list of users who had purchased a compost or worm bin through ACWMA between 1991 and September 2005. The margin of error for the List survey is plus or minus 7.7 percentage points at the 95% confidence interval;
- 350 respondents were selected using a representative and randomly drawn sample of Alameda County residents. This method is known as Random Digit Dial (RDD). The margin of error for the RDD survey is plus or minus 5.2 percentage points at the 95% confidence interval.

Respondents were screened to ensure that they lived in Alameda County, and with the RDD sample, were above 18 years of age, and had a yard or garden at their place of residence. This final screen was utilized in order to ensure that the survey reached the most likely audience for composting (those with yards) rather than ensuring a complete sample of apartment dwellers without yards but with extensive interior gardens (the most likely audience for worm bins).

## B. HIGHLIGHTS and CONCLUSIONS

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- ACWMA appears to have reached its goal to have 20% of the County composting at home. Almost a quarter (24%) of individuals with yards surveyed in the RDD County sample use some form of compost at home – pile, bin or worm bin.
- Those who are now composting in Alameda County seem to have a basic and accurate understanding of what they can and cannot compost.
- Agreement with key positive statements about composting is high.
- The drop-off rate for composters who purchased through ACWMA at some point appears to be relatively low; those who purchased bins through ACWMA have stuck to it, as 82% of them are still active composters.
- An opportunity exists to reach out to current composters to compost more of what they are not currently composting;
  - Items that could be diverted to the compost include yard debris like grass clippings, plant trimmings/debris, and leaves.
  - Composters do not always use their compost as the primary receptacle for fruit and vegetable trimmings, another opportunity for more composting with current composters.
- The Smith & Hawken Biostack is the most predominantly owned bin amongst both the RDD and the List sample.
- When examining the percentage of food and yard waste composted in relation to how often respondents compost food and yard waste, it was found that the List respondents who compost both more food (46%) and yard (43%) waste tend to have a mix of types of compost bins/piles/worm bins.
- County residents have imperfect but mostly accurate awareness of whether their City offers Food Scrap Recycling.
- Among many non-composters, it appears that the availability of the Food Scrap program decreases the sense of necessity for their households and themselves to compost.
  - It is likely some County residents consider themselves to already be doing their part by using their Green Waste Bin and Cart.
- However, among active composters in particular, the idea that the Food Scraps program makes composting unnecessary is not accepted.

- Current non-composters who *could* be composting were identified through a segmentation based upon agreement with positive statements about composting and disagreement with negative statements about composting.
  - Current non-composters may feel that they are already doing enough in diverting their food and yard waste as they take part in food scrap/yard waste programs and also tend to believe that this program makes composting unnecessary.
  - When answering an open-ended question about why they do not currently compost, 17% stated that they simply do not want to compost, while 17% had no specific reason for not composting. Specific reasons include pests (18%) and odor (13%).
  - There is an opportunity for education and messaging about the ease and necessity of composting as the target tends to agree with statements that composting is too much work (60%) and the yard waste cart makes it unnecessary to compost (60%).
- Composters tend to be very satisfied overall with the cost, value, durability and operation of their bins.
- The continuation of the discounted bin program through ACWMA is recommended; there appears to be room in some cases to raise the price somewhat, but the price should remain below market.

## C. ISSUE ENVIRONMENT

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In considering the results of this public opinion research, it should be kept in mind that the List results enable us to check in with the people we expect to be composting, examining their habits, experiences, and preferences, while the RDD results are an assessment of what the County as a whole looks like.

### Overall Demographics

There are few notable demographic differences between the List sample and the County sample. The countywide RDD sample is demographically representative of Alameda County. The List sample is similar in demographics, though there are some differences due to the specific type of respondent found on the list.

On the whole, residents of Alameda County tend to be environmentally aware, and also tend to describe themselves as such; when asked to rate themselves on a scale of 1 to 7 where 1 meant “Not an environmentalist at all” and 7 meant “Very strong environmentalist” the majority of respondents placed themselves above the middle point of 4.

- List respondents strongly identify themselves as environmentalist with a mean of 5.57, while the mean for RDD respondents is 4.92.

Specifically, 78% of list respondents consider themselves to be on the higher end of the scale (ranking themselves 5 through 7) while 64% of RDD respondents rate themselves a 5 through a 7.

There is also a difference in the education levels of the two samples with the List having significantly more education.

- Only 24% of List respondents have no or some college education while 35% have graduate or professional level education;
- Among RDD respondents, however, 41% have no or some college education and only 20% have graduate or professional education.

### Disposal Methods

Alameda County residents have a plethora of options when it comes to disposing of food and yard waste. Supplementing their garbage collection, and in some cases, composting system, more than two thirds of all respondents have a garbage disposal in their home (77% of List respondents report that they have a garbage disposal, and 69% of RDD respondents report that they have a garbage disposal). Furthermore, the Yard Waste Cart appears to be a useful repository for yard waste even among those who compost – likely due to the sheer bulk of yard waste that can be produced at one time.

When posed the question “*Does your community have a food scrap recycling program, that is, the green food scrap pail and green curbside yard waste cart?*,” overall, 59% of List respondents report that they do, and 66% of RDD respondents report that they do. The Food Scrap Recycling program is offered in the majority of Cities in the County and appears to be an option regularly employed among both samples. For the most part, awareness of the program corresponds to the places where it is offered.

- Among both the samples, in Cities where the program exists, in excess of 2/3 of the respondents report that their community has this program.

### *List*

A majority (58%) of List respondents dispose of most of their food waste with a compost system, while the second most common method of disposing food waste (17%) is by food scraps pail or yard waste cart.

Plant debris/yard waste is currently more commonly disposed of by yard waste cart (52%) than by composting system (37%).

Respondents were asked how they disposed of particular items *most often*, and it is clear that List respondents are composting all of the things that they could be composting most of the time. The most commonly composted products are fruit and vegetable trimmings (52%) while plant debris, leaves, and grass clippings are typically either being composted or put into a food scraps pail/yard waste cart. Meat (51%) and pet waste (45%), as would probably be expected, are the products most commonly disposed of in the trash can. The remainder of the meat is disposed of through other avenues such as the garbage disposal or food scraps pail (10% each), and 5% of List respondents report they do not dispose of meat. Pet waste is disposed of to a lesser extent through other avenues, but 38% of list respondents report that pet waste is not something they need to dispose.

### *RDD*

More than a third (34%) of food waste disposed of by RDD respondents goes straight to the garbage while 27% is placed in a food scraps pail/yard waste cart. Only 14% of RDD respondents compost most of their food waste.

Seventy percent (70%) of RDD respondents dispose of plant debris/yard waste in their yard waste cart, while 9% put plant debris/yard waste in the garbage, and another 9% compost plant debris/yard waste.

Since respondents were asked how they disposed of particular items *most often*, this could mean that overall composting is underreported for each item, as items may often end up in the compost, though not the *majority* of the time. Plant debris (54%), grass clippings (52%), and leaves (51%) are the products most commonly disposed of by food scraps pail/yard waste cart. Most food products (meat (45%), bread products (44%), left-over meals (41%), and dairy products (36%)) are most commonly disposed of in the trash can by RDD respondents, and 39%

of these respondents dispose of pet waste in the trash can. Thirty-six percent (36%) of respondents report that they do not dispose of pet waste, or that this category is inapplicable to them. Fruit and vegetable trimmings are almost evenly split between disposal in a trash can (30%) or food scraps pail/yard waste cart (31%).

As might be expected, the two most commonly composted products are fruit and vegetable trimmings (15%) and leaves (15%).

Among active composters in the RDD sample, there appears to be the same solid understanding as among the List of which items go in the compost (all yard debris, fruit and vegetable trimmings, sometimes bread and leftovers) and which do not (pet waste, meat, dairy products).

## **D. COMPOSTERS IN ALAMEDA COUNTY**

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### **Composter Demographics**

#### *List*

In the List, 82% of those surveyed are current, active composters. As displayed in the chart below, the plurality of composters in the List sample are between the ages of 35 and 54 (49%) while a third are above 55 years of age (33%). Composters tend to be employed (71%) and live in a single-family house (88%). The great majority of composters have a garbage disposal at home (78%). Fifty-three percent (53%) of these composters were already composting when they bought their current compost bin. Composters are concentrated in the cities of Oakland (26%), Berkeley (21%) and Fremont (13%).

The much smaller percentage of non-composters in the List sample, comprising 18%, are assumed to be no longer composting, or to have stopped composting, as by virtue of being on the list they at one point at least intended to compost. The chart below shows that respondents from the List sample who do not currently compost tend to be females (69%), are younger than the overall (with 34% under the age of 35). Non-composters are apartment residents to a higher extent than the overall (21%), which could partially account for why they may have stopped composting. As might be expected, 72% of List non-composters say that they have composted in the past, almost half of whom (48%) did so between one and five years ago. Of these non-composters who still have a compost bin or pile which they do not use, 80% state that they purchased said bin at a discount through the County.

## List Composters: Segmentation Demographics

(Note – bolded numbers denote statistically significant divergence from the overall)

	<b>Overall</b> (n=162)	<b>Composter</b> (n=133)	<b>Not Composter</b> (n=29)
<b>Total</b>	100%	82%	18%
Male	44%	47%	31%
Female	56%	53%	<b>69%</b>
Generation: <35	21%	18%	<b>34%</b>
Generation: 35-54	47%	49%	38%
Generation: 55+	32%	33%	28%
Employment: Employed	70%	71%	62%
Employment: Retired	10%	10%	10%
Employment: Other	20%	19%	<b>28%</b>
Residence: Single-family house	86%	88%	76%
Residence: Apartment	9%	7%	<b>21%</b>
Residence: Other	2%	2%	3%
Residence: Don't Know	3%	4%	0%
Garbage Disposal: Yes	77%	78%	69%
Garbage Disposal: No	20%	18%	<b>31%</b>
City: Alameda	4%	3%	7%
City: Albany	2%	1%	7%
City: Berkeley	22%	21%	24%
City: Castro Valley	7%	8%	0%
City: Dublin	2%	2%	3%
City: Emeryville	1%	0%	3%
City: Fremont	12%	13%	7%
City: Hayward	4%	4%	3%
City: Livermore	6%	8%	0%
City: Newark	3%	4%	0%
City: Oakland	27%	26%	31%
City: Piedmont	1%	2%	0%
City: Pleasanton	5%	4%	10%
City: San Leandro	4%	5%	0%
City: San Lorenzo	1%	1%	0%
City: Union City	1%	1%	3%



RDD

In the RDD sample, 24% are currently composting. As shown in the following chart, men are more likely to be composters (57%), and the plurality of composters are between 35 to 54 years of age (46%). The majority of composters in the County are white (69%) and have graduated college (55%). Fifty-one percent (51%) of RDD composters were already composting when they bought their current compost bin. Perhaps unsurprisingly, composters are concentrated in Emeryville/Oakland/Piedmont (30%) and Albany/Berkeley/Kensington (24%); composters are under-represented (comparatively to population) in the city of Fremont, which comprises 12% of the overall sample population and only holds 6% of the composters.

About three quarters of the RDD sample do not currently compost – 76%. Twenty-nine percent (29%) of County non-composters state they have composted in the past, about a third (35%) of whom did so between one and five years, and 29% of whom did so for more than ten years.

**RDD Composters: Segmentation Demographics**

(Note – bolded numbers denote statistically significant divergence from the overall)

	<u>Overall</u> (n=350)	<u>Composter</u> (n=84)	<u>Not Composter</u> (n=266)
<b>Total</b>	100%	24%	76%
Male	49%	<b>57%</b>	46%
Female	51%	43%	54%
Generation: <35	21%	19%	21%
Generation: 35-54	37%	<b>46%</b>	34%
Generation: 55+	42%	35%	44%
Age Split: <50	48%	<b>54%</b>	46%
Age Split: 50+	52%	46%	54%
Race: African-American	7%	2%	8%
Race: White	59%	<b>69%</b>	55%
Race: Hispanic/Latino	7%	2%	9%
Race: Asian	10%	8%	10%
Race: Other	8%	8%	8%
Race: Refused	10%	10%	10%
Education: No/Some college	41%	22%	<b>47%</b>
Education: Graduated college	39%	<b>55%</b>	34%
Education: Graduate/Professional	20%	23%	19%
Garbage Disposal: Yes	69%	62%	71%
Garbage Disposal: No	27%	<b>33%</b>	24%
Not environmentalist	16%	8%	18%
Neutral/DK	20%	15%	21%
Strong environmentalist	64%	<b>76%</b>	61%
<i>(List continues below)</i>			



*(List continued from above)*

City: Alameda	5%	8%	4%
City: Albany/Berkeley/Kensington	14%	<b>24%</b>	11%
City: Dublin/Pleasanton	9%	6%	10%
City: Emeryville/Oakland/Piedmont	26%	30%	25%
City: Fremont	12%	6%	14%
City: Hayward/Castro Valley	13%	11%	13%
City: Livermore	9%	7%	10%
City: San Leandro	4%	4%	4%
City: San Lorenzo	5%	1%	6%
City: Union City	3%	4%	3%

### Composters and Garbage Disposals (by City)

Possession of a garbage disposal in the home does not appear to be a large factor in whether residents compost or not. The incidence of garbage disposals is quite high among both samples, while it appears that the incidence of garbage disposals is slightly higher overall among the List sample: 77% of the list report they have a garbage disposal, while 69% of the RDD sample have garbage disposals.

### Garbage Disposals

#### LIST

	Alameda (n=6)	Albany/ Berkeley (n=38)	Castro Valley/ Hayward (n=17)	Dublin/ Pleasanton (n=11)	Emeryville/ Oakland/ Piedmont (n=46)	Fremont (n=19)	Livermore (n=10)	Newark (n=5)	San Leandro/ San Lorenzo (n=8)	Union City (n= 2)	TOTAL (n=162)
Have Garbage Disposal	83%	66%	71%	100%	65%	89%	100%	100%	88%	100%	77%

#### RDD

	Alameda (n=18)	Albany/ Berkeley/ Kensington (n=49)	Dublin/ Pleasanton (n=32)	Emeryville/ Oakland/ Piedmont (n=92)	Fremont (n=41)	Hayward / Castro Valley (n=44)	Livermore (n=33)	San Leandro (n=13)	San Lorenzo (n=18)	Union City (n=10)	TOTAL (n=350)
Have Garbage Disposal	72%	49%	94%	48%	93%	68%	91%	54%	83%	100%	69%



## Compost Method Used

### List

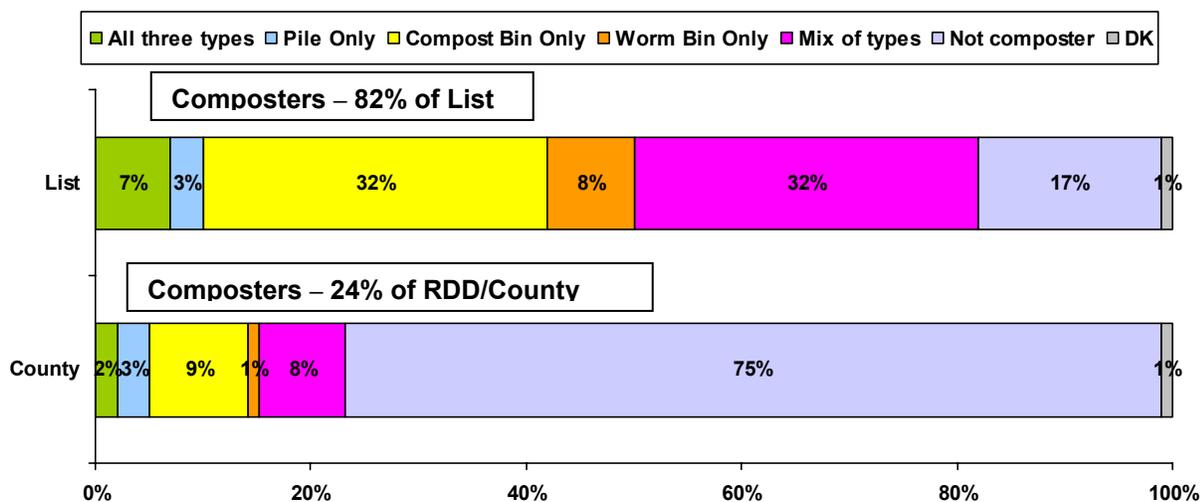
The vast majority of Alameda County residents who purchased a composting system through ACWMA from 1991 to September 2005 are still active composters. Over four-fifths (82%) of the List respondents are currently composting. The single leading compost method of these respondents is bin composting (32%) while another thirty-two percent (32%) use a mix of types of composting: bin, pile, and/or worm bin. Few solely use worm bin (8%) or pile (7%) methods. Of each type, ten percent (10%) of pile composters have multiple piles, twenty-four percent (24%) of bin composters have multiple bins, and seven percent (7%) of worm bin composters have multiple worm bins. Most respondents who have more than one bin average about two bins.

### RDD

Among those surveyed in the random County sample, almost a quarter (24%) of respondents report that they have a compost method; 8% use a mix of types of composting: bin, pile, and/or worm bin. Nine percent (9%) use a compost bin only, and the remainder uses all three methods (2%), a pile only (3%) or a worm bin only (1%). Of each type, three percent (3%) of pile composters have multiple piles, five percent (5%) of bin composters have multiple bins, and zero percent (0%) of worm bin composters have multiple worm bins. When these respondents have multiples of a specific type, they typically have a maximum of any two systems total.

The most commonly used composting method among respondents who compost is the compost bin (75%) compared to the pile (43%) and the worm bin (27%).

### Composting Method



The RDD sample has a much lower incidence of composting, which is to be expected as the List, by definition, represents the most likely composters, while the County sample reflects Alameda County as a whole.

### **RDD Bought through ACWMA at One Point**

When examining active composters in the RDD sample, EMC separated respondents by where they got their bin, be it through ACWMA or another source. There were three points in the survey at which active composters may have been asked where they got their bin; they were considered to have bought through ACWMA at some point if they responded *at least once* that they had bought it through the following:

- At a discount through the county (by phone, mail or website/online)
- At a workshop or a one-day sale
- Through the Waste Management Authority/The County/StopWaste/StopWaste.org

Remaining respondents would have acquired their bin through the following sources:

- In a store or store website
- Homemade
- Came with my house
- Other
- Don't know

In the RDD sample, 51% (n=43) of those who bought a bin got it through Stopwaste/ACWMA, while 49% (n=41) did not get any of their bins through ACWMA/Stopwaste. Those who did not purchase from ACWMA are more likely to compost in a pile - 63% of these respondents state that they compost in a pile in their yard. Men were more likely to have *not* bought their bin from Stopwaste/ACWMA, as 68% of these respondents were male. Those who purchased from another source also tend to be more neutral (a "4" or responding "Don't Know") on the environmentalist scale (at 27% neutral compared to 15% neutral overall).

Purchasers of compost bins through another source tend *not* to get information about recycling and waste disposal from Stopwaste/ACWMA (20% state they get information through the County/Waste Management as compared to 42% of those who purchased through ACWMA). It is possible that those who turned to another source (or use a pile) are less aware of Stopwaste and its programs. While those who purchased through ACWMA are more likely to have attended a workshop on how to compost (33%), those who did not purchase through ACWMA are much less likely to have attended such a workshop - 7% of this population report that they have done so. Furthermore, those who purchased through another source or use a pile report that they have recommended composting to family and friends at a lower rate (54%) than purchasers through ACWMA (70%).

Respondents who purchase through another source are less likely to think quality of bin is important (15% rate it a 1 on a scale of 1 to 5 where 1 is “Not at all important” and 5 is “Very important” compared to 2% rating a 1 who bought through ACWMA) and more likely to strongly disagree that composting is too much work (56%) compared to 30% of purchasers through ACWMA who agree with this statement.

### **Type of Bin Used for Composting**

Respondents who had a compost bin were asked what type of bin it was and where they acquired it, up to two bins. Those who owned a worm bin were asked where they acquired it, but not the type. In the following discussion, it should be kept in mind that some respondents own multiple bins.

#### *List*

Of the List sample, 70% said they own a compost bin. Since these respondents were asked about both their first and second bin, EMC collapsed the two responses to achieve an overall examination of bin ownership. The most commonly owned bin is the Smith & Hawken Biostack bin (42%; n=68). Fewer List respondents own a worm bin (30%; n=48), and the least commonly owned bin amongst these respondents is the Smith & Hawken Home Composter bin (17%; n=28).

Biostack bin owners tend to have composted for a longer period of time, with 37% composting for ten years or more, compared to 27% of the overall composters have been composting for that long. Sixty percent (60%) of these bin owners are women. Of all the bin types discussed, Biostack owners are the most likely to have attended a class on how to compost, as 22% report that they have attended a class, compared to 4% of Home Composter owners and 19% of worm bin owners.

Home Composter bin owners tend to be more recent composters in comparison to the overall List sample. Twenty-nine percent (29%) of Home Composter bin owners have composted for less than six months, while 13% of the overall List sample has composted for less than six months. All Home Composter owners report that they live in a single-family house. Fifty-seven percent (57%) have only lived at their current address for 0-3 years. These owners also tend to be under the age of 35, at 32% under 35 compared to 21% of the overall. The 21% who report that they have had challenges using their Home Composter report the following problems: the bins don't fix (ie, snap shut or lock into place) properly (83%) and are hard to manipulate (50%). Home Composter owners also seem to be more avid bargain hunters than the other types of owners – 43% report that they look for the lowest possible price, compared to 26% overall who report they look for the lowest price.

Worm bin owners report the most challenges using their bin, at 40%. These following three challenges are all reported at the same rate of 42%: the bin doesn't fix properly, the bin is hard to manipulate, and screws or attachments break off. Worm bin owners are slightly younger than the overall, with 27% under the age of 35. These owners tend to have lived at their current

address for less time than the overall, with the plurality of 29% reporting they have been at their address for 4-6 years.

On a scale of 1 to 5 where 1 means “very satisfied” and 5 means “completely dissatisfied” with their current bin overall, Biostack owners and worm bin owners rate themselves the most satisfied, labeling themselves a 1 at a rate of 63%. In contrast, Home Composter owners rate themselves a 1 at a rate of 46%. On that same scale, concerning the durability of their bin, Biostack owners and worm bin owners both report the highest satisfaction rating of 1 at 63% once again. Fifty-four percent (54%) of Home Composter owners say they are a 1 on this scale when it comes to the durability of their bin.

### *RDD*

In the RDD sample, EMC also collapsed the first and second bin type response wherever people owned more than one compost bin. Eighteen percent (18%) of RDD respondents respond that they own a compost bin. The most commonly owned bin is a Smith & Hawken Biostack bin (8%; n=27) while a similar amount own a worm bin (7%; n=23). The least commonly owned type of bin is the Smith & Hawken Home Composter bin (2%; n=6). Overall, these numbers are quite small portions of the overall sample and therefore, it is statistically insignificant to draw any major conclusions about these respondents’ demographics and composting habits.

### **Worm Bin Users and Type of Residence**

In the RDD sample, 82% of those surveyed report that they live in a single family house, while 11% report they live in an apartment. This high percentage of single family homes is consistent with the screen at the beginning of the RDD questionnaire which ensured that all respondents had a yard at their residence.

Seven percent (7%) of the RDD sample compost using a worm bin. While this percentage is too small to analyze with accuracy, the majority of worm bin owners (79%) also reside in a single-family house. As would be expected, the percentage of worm bin owners is higher in the List sample, due both to their higher awareness and enthusiasm about composting, and the screen utilized, which by definition excluded those without a yard from the RDD sample; worm bin owners are likely somewhat underreported in the RDD results. Nonetheless, among both samples, worm bins are the least used method of bin composting.

## How Often / How much Composters Compost

### *List*

All respondents identified as composters in the survey were asked how much and how often they compost both food and yard waste. They compost each type of waste at a similar rate - 48% of respondents compost 50% or more of their food waste while 45% compost 50% or more of their yard waste. Even though there are similar percentages of waste composted, food waste is composted more often (21% food waste every day) than yard waste (3% yard waste every day). These responses seem to follow common disposal needs, as food waste is usually dealt with daily, while yard waste is disposed less often in most households.

A segmentation was created to examine food and yard waste disposal, by combining responses about what percentage of waste is composted and how often composting occurs, in order to understand who composts more or less.

In examining the frequency and volume of food waste disposal to the compost it is found that 37% of the overall tend to compost more food waste, more frequently, while 38% compost less food waste, less frequently. The remainder of the population either don't know, respond that they never add food or add no food, or answered something else (9%). The remainder are not composters (17%).

Examining the frequency and volume of yard waste shows that 43% of the overall population compost more yard waste, more often while 23% compost less yard waste, less often. The percentage of non-composters of yard waste increases to 26%, which reflects the fact that worm bin users were asked about food waste composting, but not about yard waste composting, and therefore worm bin owners appear as "non-composters" when it comes to yard waste. Those who responded something else in reference to composting their yard waste come in at 9%.

The respondents who compost less food waste tend to be males (52%) when compared to the overall List male population of 44%. Those who compost less food waste also tend to be less educated when compared to the overall, with 34% of the 'compost less' category having no/some college and only 24% of the overall having no/some college.

A defining feature of those who compost more food waste is that a plurality tend to have a mix of types of bins/piles/worm bins (46%). Those who compost more food waste also tend to have started composting before the implementation of the Food Scrap Recycling Program (81%). Respondents tend to compost more food waste if they were already composting when they bought their current bin (66%). More frequent/higher volume food composters also strongly disagree with the statement "Composting is not necessary because we already recycle enough" at a rate of 89%.

The yard waste composting frequency shows that those who compost more yard waste tend to be between the ages of 35-39 (24%). They also tend to have a mix of types of compost bins/piles/worm bins (43%).

List respondents who compost more yard waste tend to have started composting before the Food Scrap Recycling Program was implemented (87%). Respondents who compost more yard waste are more likely to say that the Food Scrap Recycling Program has had no effect on their composting (65%) while in the overall only 40% say this program had no effect on their composting. When asked to rate overall satisfaction with their current bin on a scale of 1 to 5, with 1 representing very satisfied and 5 representing completely dissatisfied, 68% of those who compost more yard waste ranked themselves a 1, which is more than the overall level of ‘very satisfied’ (56%).

The respondents who compost more yard waste tend to think harvesting their compost is extremely easy (49%) when ranking their experience on a scale of 1 to 5, 1 meaning extremely easy and 5 meaning extremely difficult, compared to 33% of the overall List composters ranking ease of harvesting a 1. Frequent yard waste composters also tend to strongly disagree (62%) that a waste cart makes it unnecessary to compost.

### *RDD*

Composters from the RDD sample compost a higher percentage of yard waste than food waste. Thirty-four percent (34%) of respondents compost fifty percent or more of their food waste, while forty-two percent (42%) compost fifty percent or more of their yard waste. Even though yard waste is composted more, the frequency at which it is composted is less than food waste.

Since the number of people who compost in the RDD sample is quite small, running a food and yard waste frequency segmentation supplies very statistically insignificant details. Therefore, this segmentation was only run on the List sample which provided more composters for analysis.

## **Length of Time Composting**

### *List*

Over two-thirds of composters from the list have composted for over a year, specifically twenty-nine percent (29%) for one to five years, thirteen percent (13%) for five to nine years, and twenty-seven percent (27%) for ten years or more.

### *RDD*

Over four-fifths of composters from the RDD sample have composted for over a year, specifically 28% for one to five years, 17% for five to nine years, and 41% for ten years or more.

Among composters who have composted ten years, 51% are between the ages of 35 to 54, and 51% have lived at the same address for more than fifteen years. Long-time composters tend to live in the Berkeley area (31%).

## **Length of Time Composting Using Current Bin**

### *List*

There is roughly a fifty-fifty split between composters that have been using their current bin for less than one year (47%) and those that have been using their current bin for more than one year (51%).

### *RDD*

Only 16% of composters from the RDD sample have been using their current compost bin for less than one year. Thirty-four percent (34%) have been using it for one to five years, twenty percent (20%) for five to nine years and nineteen percent (19%) for ten or more years.

## **Satisfaction with Current Bin**

### *List*

In general, active composters from the List sample appear to be very satisfied overall with their current compost bins. On a scale of 1 to 5 where 1 is “Very Satisfied” and 5 is “Completely Dissatisfied” 56% of List respondents report they are a 1; another 16% rate themselves a 2 on this scale. The mean of overall satisfaction is 1.93.

When it comes to the durability of their current compost bin, List respondents are just as satisfied; on the same 1 to 5 scale, 58% rate themselves as a 1, and 16% rate themselves as a two, leading to an overall mean of 1.89.

Only 30% of active composters from the List sample report that they have had particular challenges using their bin. These challenges include that the bin is “hard to manipulate” (39%), “doesn’t fix properly” (39%), or that “screws and attachments break off” (27%). Both compost bin owners and worm bin owners report that “worms don’t eat fast enough” (32%). The remaining two issues are both pest related – “worms crawl into the bottom/get out” (22%) or other “pests and animals gaining entry” (20%). Interestingly enough, those who only use a compost bin report problems with worms escaping while those who use only a worm bin do not report this problem at all.

An impressive 81% of active List composters think they got a good deal on their bin.

### *RDD*

Well over half of RDD composters feel that their bin was a good deal (60%) and only 4% feel that their bin was overpriced.

Active composters from the RDD sample are also very satisfied overall with their current compost bins, though to a slightly lower degree than List composters. It must be noted that this change in degree is due to a higher percentage of “Don’t know” responses, rather than an

increase in dissatisfaction. On a scale of 1 to 5 where 1 is “Very Satisfied” and 5 is “Completely Dissatisfied” 45% of RDD respondents report they are a 1; another 15% rate themselves a 2 on this scale. The mean of overall satisfaction is 2.05.

When it comes to the durability of their current compost bin, RDD respondents are quite satisfied; on the same 1 to 5 scale, 45% rate themselves as a 1, and 9% rate themselves as a 2, leading to an overall mean of 2.05.

Only 28% of active composters from the RDD sample report that they have had particular challenges using their bin. These challenges include that the bin is “hard to manipulate” (42%), “doesn’t fix properly” (33%), and “screws and attachments break off” (25%). Twenty-five percent (25%) report that “worms don’t eat fast enough,” while 25% report problems with “worms crawling into the bottom/getting out”. Only 4% (1 respondent) report that they have a problem with “pests and animals gaining entry”.

### **Classes, Recommendations**

Relatively small segments of composters from either sample population have ever attended a workshop on how to compost at home; only 17% (n=23) of composting respondents from the List have ever attended such a workshop, while a comparatively smaller 20% (n=17) of the composting respondents from the RDD sample have attended a workshop.

Active composters’ overall satisfaction with composting also reflects in the rate at which they have recommended composting at home to their family, friends and neighbors – among List composters, 79% state they have recommended the practice. Among RDD composters, 61% have recommended composting at home.

### **Past Composters**

It is instructive to find out why once-composters stopped composting at home in order to understand what may be holding residents back from composting.

#### *List*

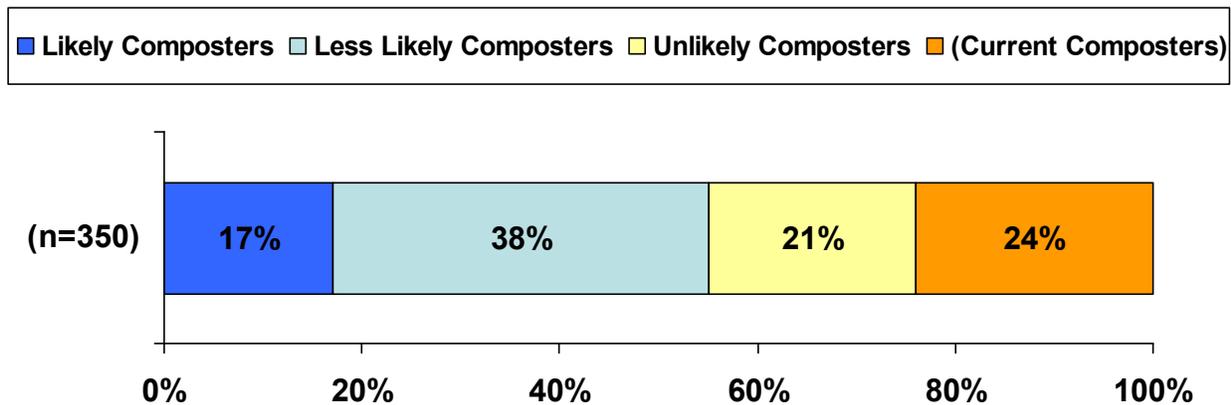
Of the 18% of List respondents who do not compost (meaning they have stopped composting over the years, or possibly, purchased a bin through ACWMA and never started), 72% have composted in the past and 37% have a bin or pile, but do not currently compost. When these respondents did compost, 48% (n=21) composted for one to five years. All of these respondents who stopped composting reported that they had bought their bin through ACWMA/ Stopwaste.org/ the County at a discount. The main reasons these respondents gave for no longer composting food waste were rodents and other pests (19%, n=27) and they didn’t like it after trying it (15%, n=27).

RDD

Of the 76% of the RDD sample who are not composters, 70% have not composted in the past. A significant amount, 22%, had composted in the past; these respondents mostly composted for one to five years (35%) or for more than ten years (29%). Of these non-composters, 11% report that they nevertheless own bins or have a pile; most (45%) report purchasing their bins “at a discount through the county.” The top reasons these respondents no longer compost are “no reason” (19%), that it is inconvenient (14%), they don’t need compost (13%), and pests (11%).

**Likely (Target) Composters from RDD Sample**

In order to learn which current non-composters in Alameda County are the likely future composters, EMC created a segmentation of the RDD sample. This segmentation is based on respondents’ answers to a series of eleven statements of positive and negative statements about compost and composting.



The target group, or ‘Likely composters’ comprises 17% of the RDD sample (n=60). These Likely composters have consistently positive views about composting, but do not currently compost. Likely composters see themselves as environmentalists, and 25% rank themselves a 7 (“Strong Environmentalist”) on the environmental scale. Like the overall sample, the target is single-family home dwellers. The target is also those who are more settled at their address, tending to live at their address for eleven years or longer (57%). Furthermore, these likely composters tend to be slightly less well educated than the overall sample, with 49% of the target having not attended or not completed college, compared to 41% of the overall in that same category. While 22% of the target have tried composting in the past, the vast majority (77%) have never composted in the past.

Likely composters are currently very involved in using food scrap/yard waste programs as evidenced by their responses to questions about methods of disposal; they are currently disposing most of their food waste (45%) and yard waste (83%) in either food scrap pails or yard waste carts. It is both good and bad that this group currently uses the Food Scrap Recycling Program; it is encouraging that they are already diverting their waste, but they may not see the need to begin composting.



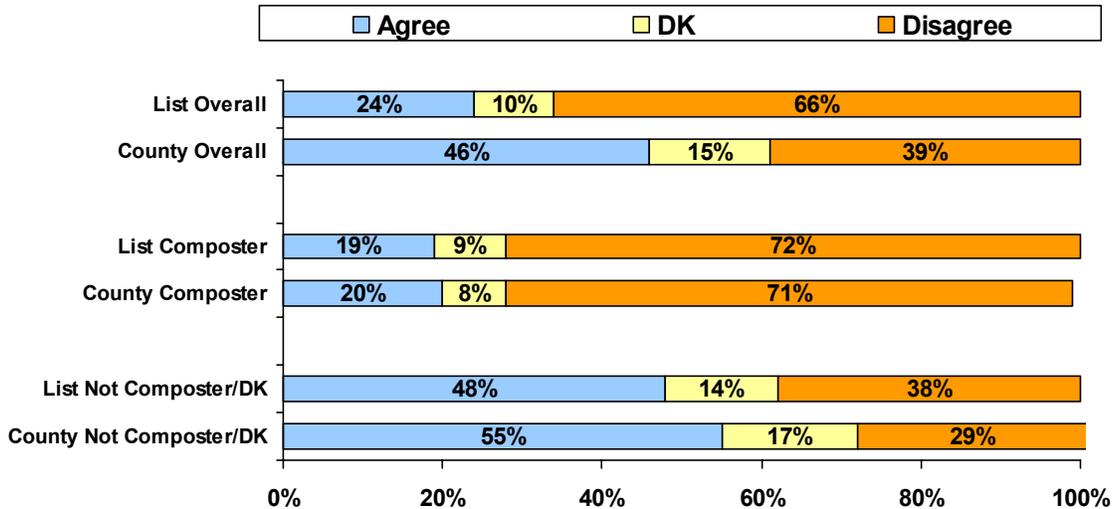
When respondents are asked the open ended question “What are the main reasons you do not put your food waste into a backyard compost pile, compost bin or worm bin?” they state they do not want to compost, or are deterred by the work involved and possible pests attracted by composting. The Food Scrap Recycling Program is not mentioned as a reason for not composting. When giving up to three top of mind reasons, the top reason respondents give, at 18%, is various pests (rodents/rats/mice/flies/bugs), while almost as many respondents say they don’t really want to compost (17%) and they have no particular reason for not composting (17%). Odor and smell is the next most reported reason at 13%.

These concerns are mirrored in this target’s responses to the fixed positive and negative compost statements; while likely composters believe composting is good for the environment (80%) and helps improve soil (78%), they also strongly agree that composting is too much work (60%) and the waste cart makes it unnecessary to compost (60%). Ease of turning (58%) and rodent resistance (68%) are considered very important aspects of compost bins, again corresponding to the concerns about the difficulty of composting, and pests.

For those who would be open to composting, an opportunity exists to educate the public about the cleanliness and ease of different bin brands.

## E. EFFECT OF FOOD SCRAP PROGRAM ON COMPOSTING

### “Yard Waste Cart Makes Composting Unnecessary”



When asked whether they strongly agreed, somewhat agreed, somewhat disagreed or strongly disagreed with the statement “The green Yard Waste cart makes it unnecessary for me to compost,” a clear divergence is seen between the List sample and the RDD Sample. List respondents, who can be assumed to be generally more knowledgeable about composting, disagree at a rate of 66%; of these, the majority (41%) say they *strongly* disagree. Ten percent (10%) of the List say that they don’t know, while 24% agree that the Yard Waste Cart makes it unnecessary for them to compost. On the other hand, only 39% of RDD respondents disagree with this statement, with slightly more unsure than the List respondents (15%). A solid 46% agree that the yard Waste Cart makes it unnecessary for them to compost.

This divergence between the samples all but disappears when active composters from each respective sample are compared to non-composters from each sample. It appears that respondents form their opinion about this statement based upon whether they compost or not. Over two-thirds of both List (72%) and RDD (71%) composters disagree that the Yard Waste Cart makes it unnecessary to compost. Around half of both samples’ non-composters (48% List, 55% RDD) agree with this statement.

This suggests that active composters understand the difference between composting at home and using the Yard Waste cart, and strongly believe in the virtues of compost separate from seeing all forms of waste diversion as equal.

*List*

The great majority of composters from the List sample began composting before the Food Scrap Recycling Program became available; 70% (n=56) report that they started before this Program, and 25% (n=20) report that they started after the Program or at about the same time. The number of List respondents who started composting after or at the same time as the implementation of the Food Scrap Recycling Program is rather small for the sake of analysis, however, a full 50% of this population began composting within the last year, so they are relatively new and less experienced composters.

The implementation of the Food Scrap Recycling Program does not seem to have affected the habits of those who began composting *before* it became available. This group tends to contain more long-time composters – 23% have been composting for one to five years, 23% for five to nine years and the plurality, 36%, have been composting for ten years or more. Seventy-three percent (73%) of respondents who started composting prior to the introduction of the Program currently dispose of most of their food waste in a compost system in their home or yard. Fifty-five percent (55%) of those who began composting *before* the program became available report that they compost more than 50% of their food waste, and 49% report that they compost more than 50% of their yard waste. Seventy-three percent (73%) of those who began composting *before* the Program was implemented compost food waste every day to a few times a week.

When asked whether they compost more or less since the introduction of the Food Scraps Recycling Program, 43% of those who began composting before report that the Program has had no effect on their composting, while 32% actually report that they compost *more* at home since the Program began.

**List: When Started Composting in Relation to Food Scrap Program Demographics**

**(Note – bolded numbers denote statistically significant divergence from the overall)**

	<b>Overall</b> (n=162)	<b>Started Before</b> (n=56)	<b>Started After/Same Time</b> (n=20)	<b>DK/Don't Remember</b> (n=4)
<b>Total</b>	100%	70%	25%	5%
Male	44%	48%	<b>65%</b>	25%
Female	56%	52%	35%	<b>75%</b>
Age Split: <50	60%	57%	60%	<b>75%</b>
Age Split: 50+	40%	43%	40%	25%
Education: No/Some college	24%	28%	22%	25%
Education: Graduated college	41%	33%	33%	25%
Education: Graduate/Professional	35%	39%	<b>44%</b>	<b>50%</b>
Employment:	70%	73%	75%	<b>100%</b>



Employed				
Employment: Retired	10%	7%	15%	0%
Employment: Other	20%	20%	10%	0%
Residence: Single-family house	86%	93%	95%	100%
Residence: Apartment	9%	4%	0%	0%
Time at current address: <10 yrs	68%	63%	79%	100%
Time at current address: 11-20 yrs	13%	22%	5%	0%
Time at current address: 20+ yrs	18%	15%	16%	0%
Garbage Disposal: Yes	77%	80%	75%	100%
Garbage Disposal: No	20%	16%	20%	0%
Not environmentalist	6%	7%	5%	25%
Neutral/DK	17%	14%	15%	0%
Strong environmentalist	78%	79%	80%	75%

### RDD

Seventy-nine percent (79%; n=45) of the RDD composters report that they started composting before the Food Scraps Program became available in their community, and only 12% (n=7) report that they started after the Program or at about the same time, a percentage too small to examine with any statistical validity.

The respondents who started composting prior to the implementation of the program tend to be older than 50 years of age (58%), are predominantly white (82%), and consider themselves to be environmentalists (84% rate themselves between 5 and 7 on the 1 to 7 scale, where 7 means “Strong environmentalist”). Much like the List sample, those who started composting after the Program was implemented are long-time composters. Twenty-seven percent (27%) have been composting for one to five years, 18% for five to nine years and the majority, 51%, have been composting for ten years or more.

Again, like the List sample, RDD respondents who were composting before the introduction of the Food Scrap Program compost often – 49% compost food waste every day to a few times a week. Fifty-six percent (56%) report that they currently dispose of most of their food waste in the compost, and in a more detailed question, 40% report that 50% or more of their food waste goes to compost. Fifty percent (50%) report that they compost more than 50% of their yard waste.

When asked whether they compost more or less since the introduction of the Food Scraps Recycling Program, 49% of those who began composting before report that the Program has had no effect on their composting, while 29% actually report that they compost *more* at home since the Program began.

## RDD: When Started Composting in Relation to Food Scrap Program Demographics

(Note – bolded numbers denote statistically significant divergence from the overall)

	<u>Overall</u> (n=350)	<u>Started Before</u> (n=45)	<u>Started After/Same Time</u> (n=7)	<u>DK/Don't Remember</u> (5)
<b>Total</b>	100%	79%	12%	9%
Male	49%	51%	<b>86%</b>	<b>60%</b>
Female	51%	49%	14%	40%
Generation: <35	21%	9%	<b>43%</b>	<b>40%</b>
Generation: 35-54	37%	<b>47%</b>	29%	20%
Generation: 55+	42%	44%	29%	40%
Age Split: <50	48%	42%	<b>71%</b>	<b>60%</b>
Age Split: 50+	52%	<b>58%</b>	29%	40%
Language other than English: Yes	22%	18%	14%	<b>40%</b>
Language other than English: No	73%	<b>80%</b>	71%	40%
Language other than English: DK	5%	2%	<b>14%</b>	<b>20%</b>
Education: No/Some college	41%	27%	0%	0%
Education: Graduated college	39%	<b>48%</b>	<b>83%</b>	<b>75%</b>
Education: Graduate/Professional	20%	<b>25%</b>	17%	<b>25%</b>
Employment: Employed	62%	62%	43%	60%
Employment: Retired	21%	<b>27%</b>	14%	20%
Employment: Other	16%	11%	<b>43%</b>	20%
Residence: Single-family house	82%	82%	<b>86%</b>	80%
Residence: Apartment	11%	11%	0%	0%
Residence: Other	3%	4%	0%	0%
Time at current address: <10 yrs	57%	50%	<b>67%</b>	50%
Time at current address: 11-20 yrs	16%	<b>23%</b>	0%	<b>25%</b>
Time at current address: 20+ yrs	27%	27%	<b>33%</b>	25%
Garbage Disposal: Yes	69%	56%	71%	<b>80%</b>
Garbage Disposal: No	27%	<b>42%</b>	14%	0%
Garbage Disposal: Don't Know	5%	2%	<b>14%</b>	<b>20%</b>



Not environmentalist	16%	7%	14%	0%
Neutral/DK	20%	9%	<b>29%</b>	<b>40%</b>
Strong environmentalist	64%	<b>84%</b>	57%	60%



## **F. CONCLUSIONS FROM PRICING INFORMATION AND BIN PREFERENCES**

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In both the RDD and List sample, 66% of respondents state they are willing to pay more for a better quality product. This would indicate that in the case of Alameda County residents who are in the market for a composting system, most would be willing to pay more for whichever system they opted to use, assuming it was of high quality. It must be kept in mind that when non-composters were asked for their reasons for not composting, cost or expense were not mentioned.

ACWMA currently offers the same products that are found in the market, but at significantly reduced prices; even if it raised prices only somewhat, ACWMA would be able to “keep” those purchasers who are already intent upon buying compost or worm bins. On the other hand, by ensuring that prices stay lower than retail, ACWMA potentially attracts purchasers who might otherwise find price a barrier to composting.

### *List*

When asked which of the three products described in the survey they would choose, if they needed a new composting system, the plurality of the list respondents opted for the Smith and Hawken Biostack at 43%, while 22% chose the Smith & Hawken Home Composter and 16% chose the Wriggly Wranch Worm Bin.

### *RDD*

In the RDD sample, the top choice was the Smith & Hawken Home Composter with 26% saying this is the product they would most likely purchase. However, 24% said “None of these” and 21% replied they did not know, showing that there is much more ambivalence and indecision among the RDD respondents; this reflects the fact that many of them are not composters and may not have any interest in composting. The Smith and Hawken Biostack (15%) and the Wriggly Wranch Worm Bin (14%) were selected by smaller numbers of these respondents.

### *Pricing*

EMC performed an analysis of response to the three products offered by ACWMA by assigning different probabilities of purchase to each response at each price. The following is a conservative, but reasonable estimate. It was assumed that those who said:

“Would Definitely buy” the product at that price point, were 90% probable to buy that product;  
“Would Probably buy” the product at that price point, were 50% probable to buy that product;  
“Would Probably Not buy” the product at that price point, were 10% probable to buy that product;

And for “Would Definitely Not buy,” “Already have” and “Don’t Know” were assumed to have a 0% probability of buying that product at that price point.

In this way, we have an idea of the likely percentage of purchasers for each product at each price point, as well as what the total sales price would be at each price point.

EMC’s recommendation would depend upon what ACWMA’s goals are. There are different price points for each product that either maximize number of purchasers, or maximize revenue. Therefore, we point out both. It must also be kept in mind that this series of questions was, to some extent, presented as comparison shopping because respondents were asked about each product three times with the price getting lower each time. In a real world situation, a consumer would likely only see one price.

In the following charts, the List results are given for comparison, but should not be used to form conclusions. The List sample represents only composters, while the RDD sample shows composters and also non-composting County residents in their existing proportions.

EMC analysis showed the following:

	LIST SAMPLE		RDD COUNTY SAMPLE	
	% of Probable Purchasers at this Price	Calculation of Revenue at this Price	% of Probable Purchasers at this Price	Calculation of Revenue at this Price
Worm bin \$100	11%	\$1,068	14%	\$1,389
Worm bin \$45	31%	\$1,394	23%	\$1,013
Worm bin \$37	37%	\$1,380	26%	\$949

Maximize Users: The price of \$37 would be the optimal price for the Worm Bin to maximize users, gaining 26% of RDD respondents.

Maximize Revenue: The price of \$100 would be the optimal price for the Worm Bin to maximize revenue.

	LIST SAMPLE		RDD COUNTY SAMPLE	
	% of Probable Purchasers at this Price	Calculation of Revenue at this Price	% of Probable Purchasers at this Price	Calculation of Revenue at this Price
S&H Biostack \$89	17%	\$1,472	14%	\$1,221
S&H Biostack \$59	25%	\$1,475	19%	\$1,145
S&H Biostack \$48	33%	\$1,591	24%	\$1,149

Maximize Users: The price of \$48 would be the optimal price for the Smith and Hawken Biostack to maximize users, gaining 24% of RDD respondents.

Maximize Revenue: The price of \$89 would be the optimal price to maximize revenue for the Smith and Hawken Biostack. However, the price of \$48 would net 10% more users than the highest price while sacrificing a net of only \$72 in revenue.



	LIST SAMPLE		RDD COUNTY SAMPLE	
	% of Probable Purchasers at this Price	Calculation of Revenue at this Price	% of Probable Purchasers at this Price	Calculation of Revenue at this Price
S&H Home Composter \$69	19%	\$1,274	17%	\$1,136
S&H Home Composter \$31	39%	\$1,215	28%	\$869
S&H Home Composter \$25	48%	\$1,208	34%	\$860

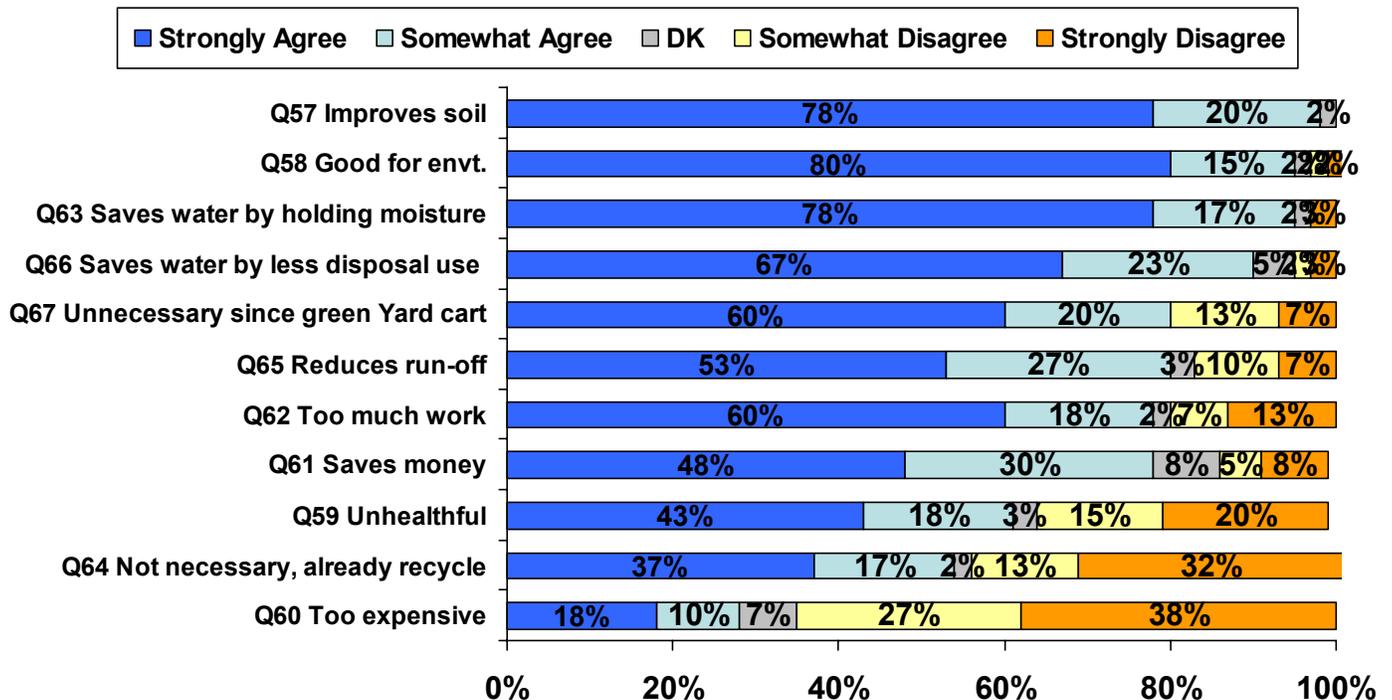
Maximize Users: The price of \$25 would be the optimal price for the Smith and Hawken Home Composter to maximize users, gaining 34% of RDD respondents.

Maximize Profit: The price of \$69 would be the optimal price for the Smith and Hawken Home Composter to maximize revenue, despite the severe drop-off in users at this level; at the higher price, the small amount of units sold simply make more money.



## G. MESSAGING

ACWMA should focus its messaging on likely composters in Alameda County. The following chart demonstrates the responses of the target group of likely composters to the specific positive and negative messages about composting.



It is clear that many of the positive messages resonate very strongly, and that many of the negative messages elicit disagreement from the target.

However, it should be kept in mind that it is possible that much of the strong resonance with positive statements is somewhat superficial, that is, a respondent may strongly agree that composting is good for the soil, but have no interest in or need for compost for their own household. There is little way to get around County residents' perceptions that they do not need compost if they do not garden, have too small a garden/yard, or have nowhere to use the compost, but there is still an opportunity to educate people.

For those who could be persuaded of the benefits of composting, there are a few places where messaging would be beneficial, as evidenced by the following statistics:

- 80% of the likely composters target believe that “The green Yard Waste cart makes it unnecessary for me to compost.”
- 78% of the likely composters target believe that “Composting at home is too much work.”
- 61% of the likely composters target believe that “Composting at home is unhealthful. It smells bad, spreads disease and attracts rodents.”
- 54% of the likely composters target believe that “Composting at home is not necessary because we already recycle enough.”

This would indicate that likely composters need to hear the following messages:

- **Composting is best:**
  - It is better to compost at home than to use any other form of waste disposal when it comes to yard waste and compostable food waste.
  - Composting is a unique form of recycling and waste management that is superior to other forms of recycling.
- **Composting is easy:**
  - People who currently compost think it is easy and could serve as spokespeople.
  - Bins available today are virtually maintenance free.
  - Composting is easy and there are classes available for those who want to know more.
  - Indeed, there is an organization dedicated to waste management that holds a wealth of information: ACWMA.
    - County residents could certainly have a higher awareness of Stopwaste/ACWMA, and they should be alerted of the existence of the ACWMA bin program.
- **Composting is pest-free:**
  - **If you follow a few simple procedures to manage and prevent pests.**
  - Current users do not have inordinate trouble keeping pests away from compost.
  - Bins available today are clean.