

May 2007

Survey and Market Assessment for Backyard Composting and Grasscycling



MUSTEL GROUP
MARKET RESEARCH

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Executive Overview



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➤ Introduction

- The City of Vancouver is currently reviewing plans for additional promotion of residential backyard composting in 2009. Consideration is also being given to expanding this promotion to include residential grasscycling.
- To provide input for planning promotions in 2009, a public opinion survey was commissioned among the target market for these resident-based initiatives. The survey was designed to determine the level of current participation and willingness to start participating, as well as to test messages and methods of communicating with residents in these promotions.
- A random telephone survey was conducted among 500 households that fulfill the criteria for the target market. Consisting of single family dwellings and townhouses with personal yard space, interviews were distributed across the City of Vancouver, but excluded Downtown/West End/Yaletown. The survey was translated into Chinese (Cantonese and Mandarin) and Punjabi with interviewers available as required. The fieldwork was completed from May 16 to June 6, 2007.
- Key findings are summarized briefly in this Executive Overview with the results in a more comprehensive, illustrated format in the Detailed Findings section of this report.

➤ Key Findings

Composting

- Half of Vancouver residents own a backyard composter, with about 85% of those residents using the composter all, most or some of the time.
- Residents who garden or grow food in their yard are more likely to compost.
- Environmental concerns are major motivators for composting, but having better information on composting and better tools provided with the composter would encourage the behaviour.
- There is still some educating and/or motivating to be done among regular users of composters; more than one-in-five (21-27%) do not practice procedures such as aerating, soil layering or soil removal.
- Chinese language speakers know less about composting than any other group; Other South Asian/Asian language speakers use composters frequently.

➤ Key Findings (cont'd)

Grasscycling

- 69% of Vancouver residents mow their own lawn, with about 73% of those residents grasscycling most of the time and 22% some of the time.
- Grasscycling is much less common among non-English speakers.
- Residents who do not grasscycle believe that clippings on the lawn look bad or that thatch will be created.
- Having better information easily available, and the assurance that the lawn would still look nice, would encourage grasscycling.

➤ Key Findings (cont'd)

Communication

- In terms of awareness of composting and grasscycling materials and information channels,
 - 35% of Vancouver residents are aware of Metro Vancouver's "Composting Hotline" (of Chinese speakers, 33% are aware).
 - 24% recall receiving the City's "Grow Natural" booklet in the mail. About half of those who remember receiving the booklet kept it with a majority finding it useful.
 - 26% are aware of the Grow Natural website www.grownatural.ca. Residents least aware are Chinese speakers, those aged under 45 and those who have never grasscycled.
- About half of Vancouver residents are interested in receiving information about composting and grasscycling, and over six-in-ten Chinese language speakers say they are interested.
- Most Vancouver residents would prefer composting information integrated with natural yard care information, and most would prefer to receive this information by mail. However, a majority of Chinese language speakers prefer video demonstrations on TV or the internet.

➤ Motivating Factors

Motivating Infrequent and Non-composting Residents

- Environmental benefits would provide the greatest motivation to compost for Vancouver residents who compost infrequently or not at all. The conservation and garbage reduction messages resonate best.
 - Not wasteful
 - Reduces amount of garbage
 - Natural fertilizer
 - Doing more for the environment

- Simplicity, time and cost savings are somewhat less persuasive:
 - Composting is simple and easy
 - Would cut down watering of the garden

- But these Vancouver residents tend to be much less convinced by arguments relating to ease of avoiding unpleasant side effects, such as rodents and smells.
 - Easy to avoid attracting rodents
 - Easy to avoid smells

➤ Motivating Factors (cont'd)

Persuasiveness of Grasscycling Benefits and Assurances

- Once again, environmental benefits of grasscycling appear to be the most motivating to these infrequent and non-users of grasscycling. The most motivating messages are that grasscycling helps the environment by:
 - Waste reduction and
 - Providing a natural fertilizer

- The persuasiveness of the environmental arguments appear to be somewhat stronger in the case for composting than for grasscycling (77-78% for the top two composting messages highest level of motivating vs. 68-69% for top two grasscycling messages).

- It appears that residents may be concerned that grasscycling would create thatch in their lawn, as the assurance that it does not create thatch is the least strong of the messages tested. Nevertheless, half of those who seldom/never grasscycle are motivated by this assurance.

➤ Conclusions

- In sum, there is a moderate level of public interest in more information about composting and grasscycling. Given the current broad acceptance of global warming, need for waste reduction and recycling in general, this openness indicates the public's receptivity to taking steps in their own homes to improve the environment. It is not surprising then that environmental messaging will be the most effective.
- Nevertheless, receptivity to information does not necessarily translate into adopting new behaviour. In fact, time and convenience issues combined comprise the greatest deterrents to composting. These reasons are followed by misperceptions and lack of knowledge.
- There is low interest in an in-home advisory service that people would have to pay \$25 to receive (14% expressing positive interest). When applying a common marketing research formula that down-weights stated intentions, the take-up rate is estimated at about 5% of ground-oriented households, assuming 100% awareness.
- An analysis of the survey findings suggest that there is potential to expand the practice of composting base by 5% of target households (ground-oriented dwelling units), based on a customized method of estimating take-up of future composter purchase among infrequent and non-users (formula and assumptions appended).
- Using this same method, the new adoption of grasscycling is also estimated at about 5% of all target households (ground-oriented dwelling units).

➤ Recommendations

- Emphasize environmental benefit messages (i.e., positive messaging).
- Find a positive way to alleviate concerns and dispel myths (especially about rodents, pests and odors for composting and fear of creating thatch for grasscycling).
- Provide time-saving and convenience-oriented products to promote success with composting (e.g., indoor/back porch collector pails, aerators) and emphasize ease/convenience.
- Provide information on composting integrated with natural yard care by mail or direct delivery, as this is the preferred channel.
- If possible, encourage composting and grasscycling in the English as a Second Language (ESL) Chinese community by using video demonstrations on the TV or internet.

Foreword



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➤ Research Objectives

- The City of Vancouver has commissioned research to assist the Engineering Department in planning its promotion in 2009 primarily in regard to residential backyard composting and secondarily, in regard to residential grasscycling. Research objectives are, as follows:
 - To determine if a larger promotion of backyard composting is warranted in 2009,
 - To gauge resident receptiveness and the need for an additional or alternative promotion on grasscycling, and
 - To develop messages and methods of communicating with residents in these promotions.
- Market research was conducted amongst a random sample of 500 households with personal yard space in the City of Vancouver (excluding the Downtown/West End/Yaletown).
- Interviewing was conducted from Mustel Group's computer assisted telephone interviewing (CATI) facility from May16-June 6, 2007.
- The margin of error on the total sample is +/-4.4% at the 95% confidence level.

➤ Methodology

- A random telephone survey was conducted with residents of single family dwellings and townhouses across the City of Vancouver, but excluded the Downtown/West End/ Yaletown area. The sample was drawn from all dwellings with five or fewer units and then screened to exclude apartments or condos. Heads of household were screened to qualify for the full survey on the basis of the following further qualifying criteria:
 - Having a personal yard area,
 - Being responsible for, or co-managing, care of the yard,
 - Residing in the City of Vancouver for at least one year.

Sample Distribution				
	Total Study Area		Total Qualifying Market	
	<u>Actual</u>	<u>Weighted</u>	<u>Actual</u>	<u>Weighted</u>
	(624) %	(624) %	(500) %	(500) %
Region				
North East	26	26	25	26
North West	26	31	25	30
South East	25	24	25	24
South West	23	20	25	21
Dwelling Type				
Single family	77	76	87	86
Duplex/Townhouse	16	16	13	14
Apartment/Condo	4	5	-	-
Less than 1 year in City	3	3	-	-

➤ Methodology (cont'd)

- Interviews were distributed equally across four regions of interest. The City was divided into four quadrants with King Edward/East 25th Avenue defining the North/South boundaries and Main Street the east/west boundaries. Downtown/West End/Yaletown was not included in this study.
- Specific steps were taken to ensure the final sample was representative of the population including:
 - Random sampling of households within each of the defined sub-areas using a regularly updated database of published residential phone listings (sourced from all telephone service suppliers)
 - A system of up to five callbacks to minimize potential non-response bias
 - Translation of the survey instrument into Cantonese, Mandarin, and Punjabi
- At the data processing stage the sample of households screened was weighted into proper proportion by region, matching 2001 Census statistics for dwelling type.
- The survey was available in English plus three alternate languages, resulting in 62 non-English interviews (27 Cantonese, 21 Mandarin and 4 Punjabi).

Detailed Findings

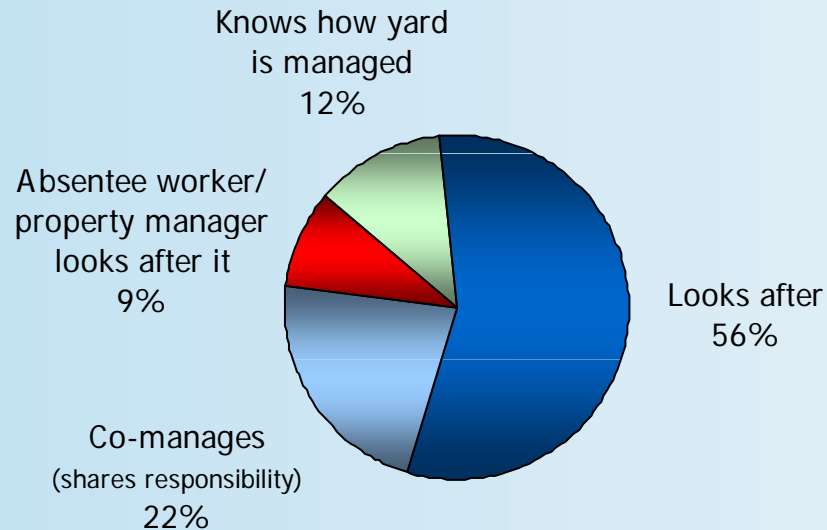


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➤ Yard Care Section

- This section of the report covers the following topics:
 - Level of responsibility for yard care
 - Involvement with yard and garden
 - Incidence of growing food in yard

➤ Responsibility for Household Yard Care

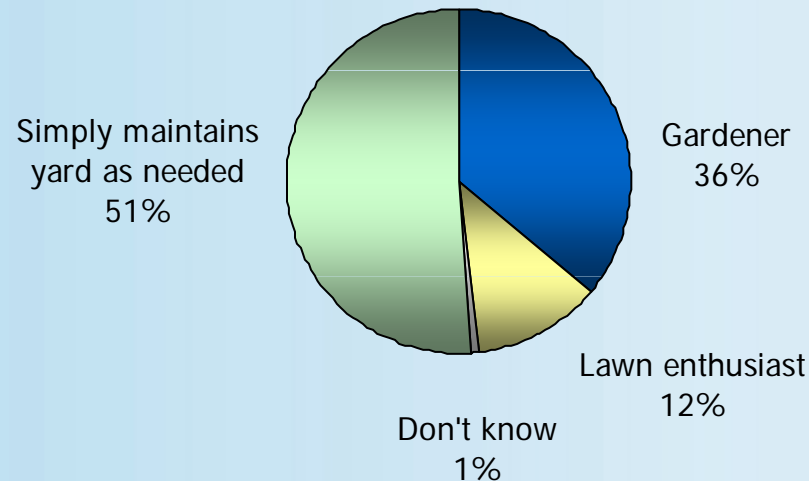


- In households with personal yard areas, nearly all heads of household (91%) have some knowledge of how the yard is managed.
- Furthermore, a large majority (77%) of residents personally look after or co-manage their yard.
- More males than females are responsible for looking after the yard (70% vs. 54%).

Base: Total residing in target areas for 1 year or more, in detached homes, duplexes or townhouses, and have a personal yard area (n=552)

Q.C7) Are you the person who looks after the yard, co-manages the yard or know how the yard is managed?

➤ Self-described Involvement with Yard



Base: Total (n=500)

Q.C9) Would you consider yourself: a gardener or a lawn enthusiast, or would you say you simply have a yard and maintain it as needed?

- The target population (who has a personal yard area) splits into one of two camps—those who regard yard work as a maintenance task and those who take a hobbyist interest in gardening or lawn care.
- About half of residents simply maintain the yard as needed.
- On the other hand, just over one-third consider themselves gardeners and the remaining 12% self-classify as “lawn enthusiasts”.

➤ Characteristics of Yard-Involvement Segments

■ **Yard maintainers:**

- Non-English residents, and particularly Chinese speakers, appear to be more likely than English-only speakers to regard yard care as a maintenance task (59% vs. 46%).

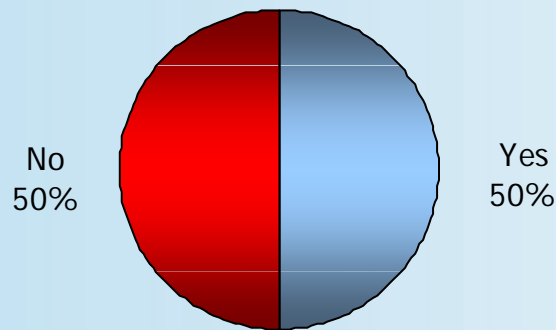
■ **Gardeners:**

- Almost twice as many women as men consider themselves gardeners (46% vs. 24%).
- Chinese-speakers are least likely to self-classify as “gardeners” (13%).

■ **Lawn enthusiasts:**

- Lawn enthusiasts are most prevalent among those under 45 years of age
- Also among non-English speakers (18% vs. 8% among English-only speakers).

➤ Growing Food in the Yard



Base: Total (n=500)

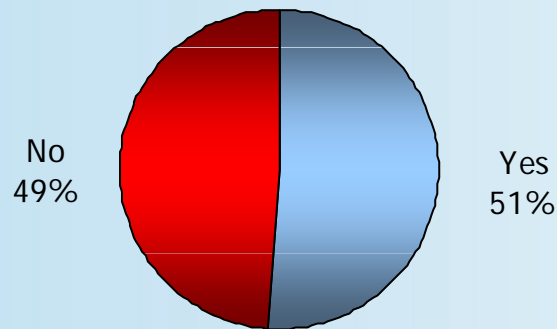
Q.C9) Do you grow any food in your yard?

- About half of target residents grow food in their yard.
- Not surprisingly, those living in single detached dwellings are much more likely to grow food in their yard than duplex/townhouse dwellers (53% vs. 35%).
- North East and South East residents are more inclined than Westside residents (62% and 58%, respectively).
- Growing food is most popular among Other South Asian/Asian language speakers (68% vs. 50% for English speakers). In spite of the greater likelihood to self-describe as a “yard maintainer”, there is considerable interest among ethnic residents in food gardening.

➤ Backyard Composting Section

- The research on composting covers the following topics:
 - Incidence levels of ownership
 - How obtained
 - Frequency of use
 - Composting practices
 - Reasons for getting started and for continuing
 - Barriers to composting and more frequent composting
 - Appeal of incentives to acquire a composter
 - Persuasiveness of benefits and ease of composting as motivators
 - Other methods of disposal for yard trimmings and garbage

➤ Incidence of Having a Yard Composter



Base: Total (n=500)

Q.1) Next we are going to talk about composting...that is, disposing of kitchen waste and yard clippings in a special outdoor container or a pile where it can decompose. Do you have a backyard composter?

- Half of Vancouver target residents currently have a yard composter.
 - ▶ Those with both front and back yards are more likely to own a composter (54%), compared to those with only a back yard (17%).
 - ▶ Incidence is highest in the North East (62% vs. 42-50% elsewhere).
 - ▶ The older the resident, the more likely they are to own a composter.
 - ▶ Composter ownership is also more prevalent among English-only speakers (55% vs. 37% of Chinese speakers).

➤ Profile of Residents With and Without Composter

	Total Market (500) %	Have Composter	
		Yes (252) %	No (247) %
Region			
North East	26	31▲	20
North West	30	29	31
South East	24	20	27▲
South West	21	21	22
Dwelling Type			
Single detached	86	91▲	81
Duplex/ Townhouse	14	9	19
Gender			
Male	48	46	49
Female	52	54▲	51
Age			
< 45 years	31	27	36▲
45-54 years	27	26	28
55-64 years	19	20	17
65 + years	21	25	17

- Those who have composters are more likely than those without a composter to live in the North East and in single detached homes.
- Those without composters have greater representation from the Southeast and from residents under 45 years of age, compared to those currently with composters.

Notations:

▲ Significantly higher @ 95% confidence level.

▲ Directionally higher (significant @ 90% confidence level).

➤ Profile of Residents With and Without Composter, cont.

	Total Market (500) %	Have Composter	
		Yes (252) %	No (247) %
Vehicle in Household			
Yes	92	91	93
No	8	9	7
Gardening Interest			
Gardener	36	45▲	27
Lawn enthusiast	12	12	12
Simply maintain	51	42	60▲
Grow Food			
Yes	50	59▲	42
No	50	41	58▲
Ever Grasscycle			
Yes	47	73▲	62
Composting Level of Use			
Dedicated (All/most of time)	38	75▲	-
Low use (Some/Seldom/Never)	13	20	-
Non-user (no composter)	49	6	-
Receptivity			
Want expert service (in-home)	14	15	17
Want info only	36	34	38
Do not want info	51	51	50

- Those who have composters are more likely than those without a composter:
 - ▶ To be gardeners
 - ▶ To grow food
 - ▶ To grasscycle
- Those without composters have a greater tendency:
 - ▶ To simply maintain their yard
 - ▶ To not grow food
- Receptivity to advice/more information about composting or grasscycling is similar regardless of having or not having a composter.

Notations:

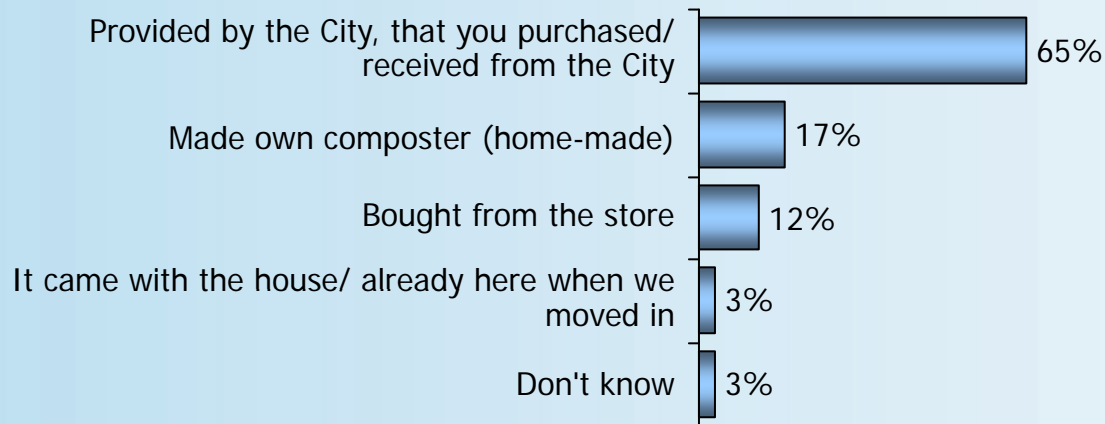
▲ Significantly higher @ 95% confidence level.

▲ Directionally higher (significant @ 90% confidence level).

➤ Strongest Predictors of Having/Not Having a Composter

- Multivariate analysis (Chaid) was used to try to identify and confirm those variables that are more likely to predict composter acquisition.
- The strongest predictors for determining whether or not a household has a composter are:
 - ▶ **Attitude to the gardening:** Considering oneself a “gardener” is a strong predictor. Since this is not a demographic variable, it may be difficult to target, but will have implications for marketing.
 - ▶ **Ethnic background :** English-speakers have a higher likelihood at this time than other groups.
 - ▶ **Area of City:** North East and South West currently have a higher likelihood.
 - ▶ **Rent or own the house:** Not surprisingly, the rate of owning a composter is higher among homeowners.
 - ▶ **Years in Vancouver:** The longer residence in the City, the higher rate.
 - ▶ **Household income:** Among the non-English households, the lower income group has the higher rate of having a composter.

➤ Method of Obtaining a Composter

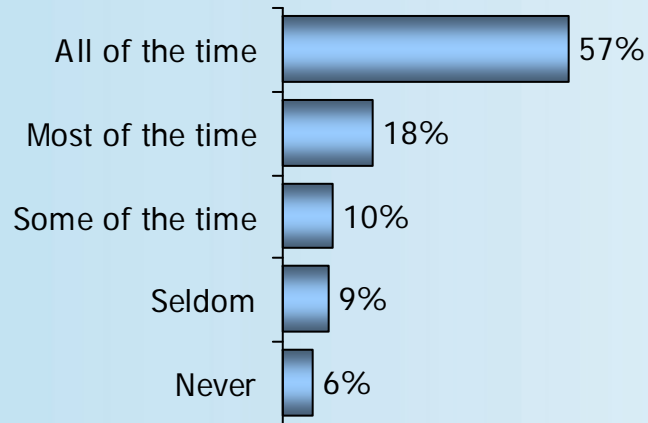


Base: Total who have an outdoor composter (n=252)

Q.2) Is it a composter provided by the City (that you purchased/ got from the City), that you bought from the store or is it one that you or someone in your household made?

- About two-thirds of those with composters have one purchased from the City.
- Most likely to have a composter purchased from the City are:
 - ▶ Northwest residents (79%)
 - ▶ Those aged 45-64 (73%)
 - ▶ Other South Asian/Asian language speakers (79%)
- Those under 45 years of age who have composters were most likely to have bought it at a store (22%).

► Frequency of Using Composter

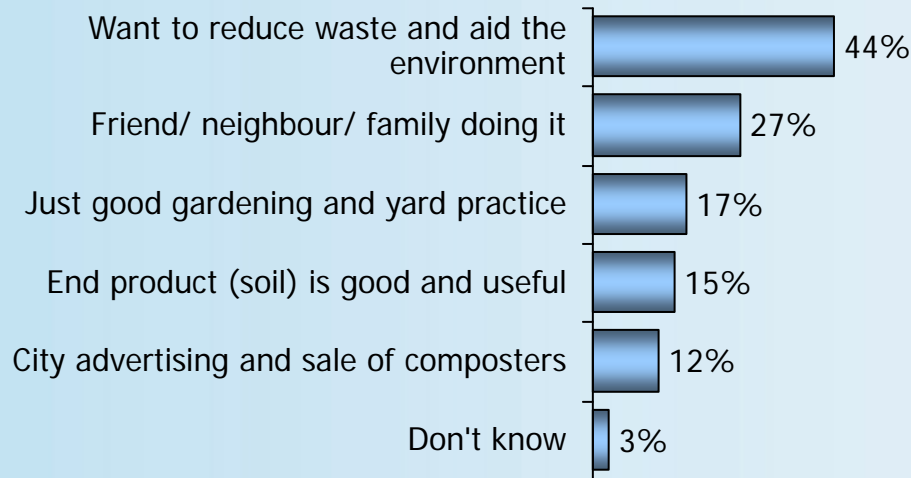


Base: Total who have an outdoor composter (n=252)

Q.3) How much do you use your composter? Would you say...

- People who have a composter tend to use it all or most of the time.
 - ▶ Those who garden or grow food in their yards are the most dedicated to composting (all of the time).
 - ▶ Chinese speakers are less likely to be dedicated composters (38% say "all of the time").
 - ▶ The sample of South Asian/Other Asian language speakers with a composter is very small, but they may be more dedicated to composting (9 out of 11 respondents say "all the time").

➤ Reasons For Getting Involved in Backyard Composting



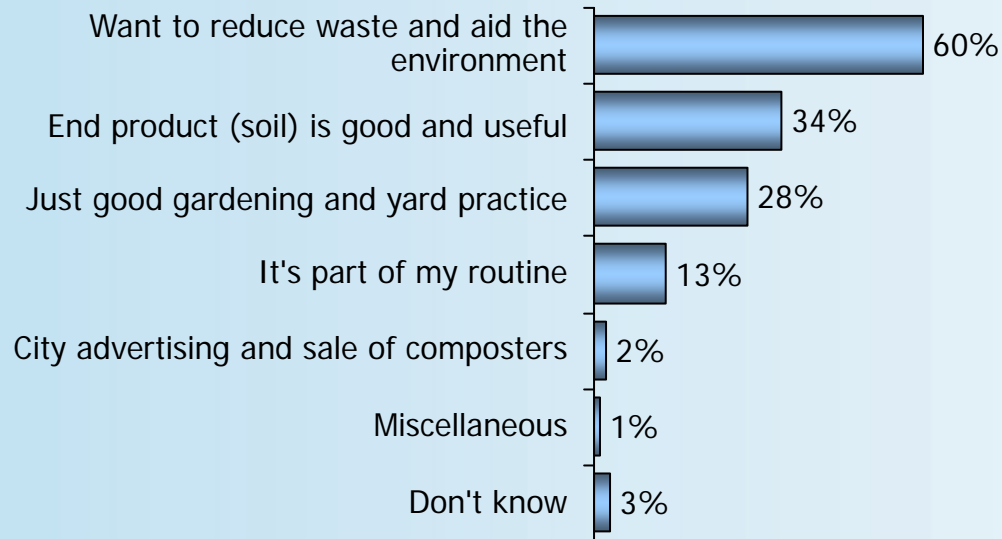
Base: Total who use composter all/ most of the time (n=189)

Q.4) What first got you involved in backyard composting?

Note: Does not add to 100% since some respondents gave multiple reasons.

- Most residents who use their composter all/most of the time were first motivated by a desire to reduce waste and aid the environment.
- The example of friends, neighbours or family who compost was key to getting started for others.
- Those who grow food are more likely than others to say that the end product is good and useful (20% vs. 7% for non-growers).

► Reasons For Continuing to Compost

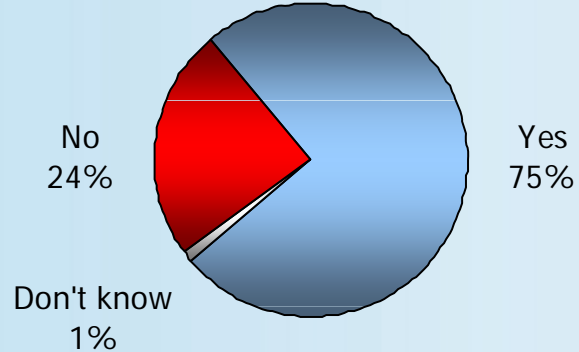


- The environmental benefits are the primary drivers for continuing to compost.
- Secondary reasons are the soil end product and that this is good garden/yard practice.

Base: Total who use composter all/ most of the time (n=189)

Q.5) Why have you kept doing it?

➤ Aerating the Compost

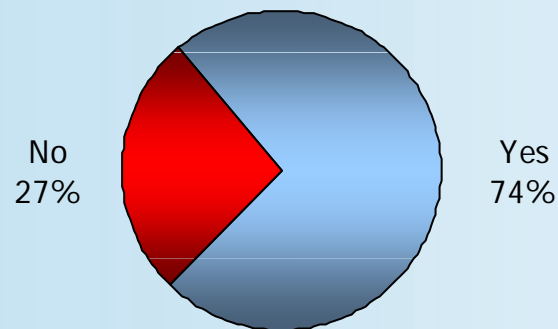


- Three quarters of those who regularly compost (all/most of the time) say that they aerate their compost at least occasionally.

Base: Total who use composter all/ most of the time (n=189)

Q.5b) Do you aerate the compost (mix it occasionally)?

➤ Adding Layers of Soil over Layers of Food Waste

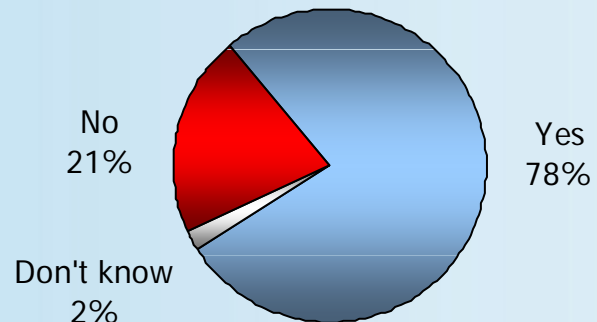


Base: Total who use composter all/ most of the time (n=189)

Q.5c) Do you add layers of soil or other matter on top of the layers of food waste?

- About three quarters of those who regularly compost add layers of soil on top of layers of food waste.
- This practice is more prevalent among those who self-classify as 'gardeners' (81%).

➤ Removing Composted Soil Each Year



- Most who compost regularly also say that they usually remove the composted soil each year,
- Particularly those who garden or grow food in their yard (86% and 83%, respectively).

Base: Total who use composter all/ most of the time (n=189)

Q.5d) Do you usually remove the composted soil each year?

► Reasons for Not Composting More Often

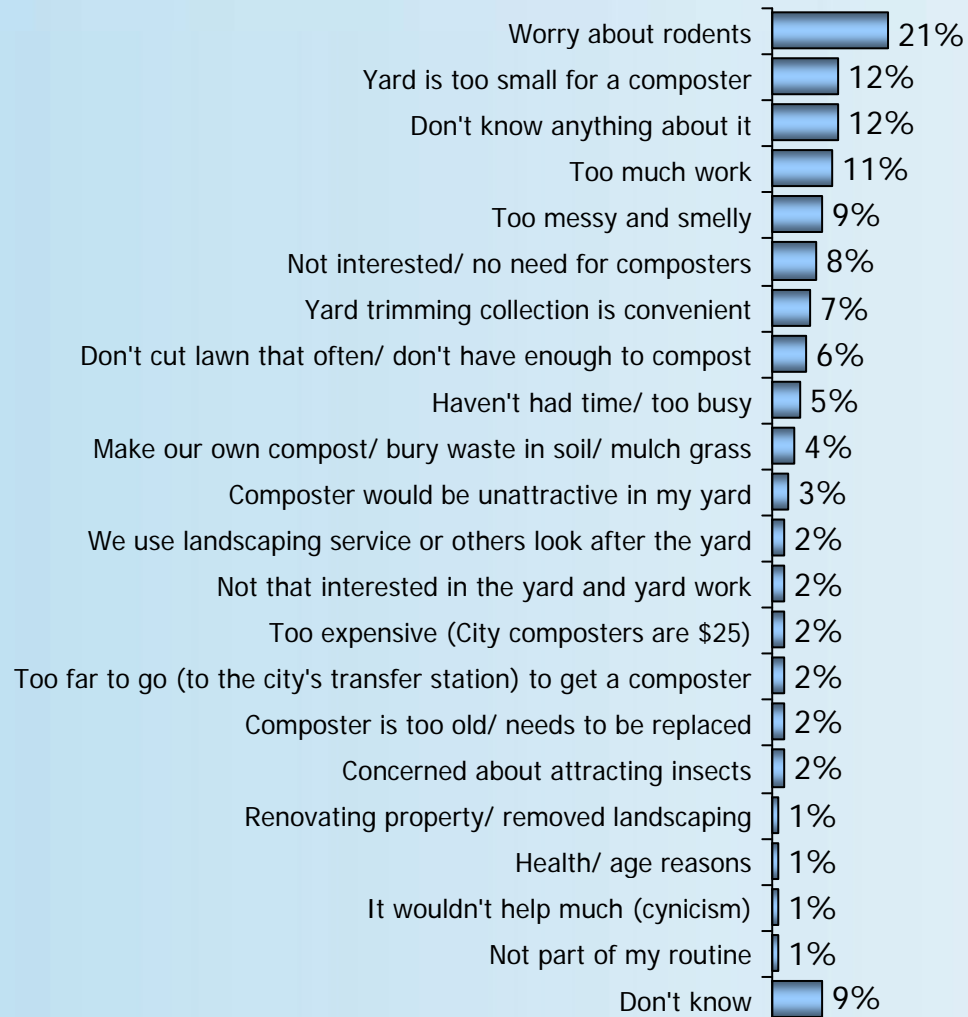


Base: Total who use composter some of the time/ seldom/ never (n=63)

Q.6) Why don't you do it more often?

- For those who do not use their composter regularly the top barriers are:
 - ▶ **Convenience** issues (Too little or too much yard waste/ inconvenient)
 - ▶ Lack of **time**/lower priority (too busy/ not enough time)
 - ▶ Lack of **knowledge** (don't know enough about it; doesn't work/can't get it to work)
 - ▶ Lack of **interest**
- By far, the most common deterrent for Chinese language speakers is that they don't know enough about how to make it work (42%).

► Reasons for Not Having a Backyard Composter

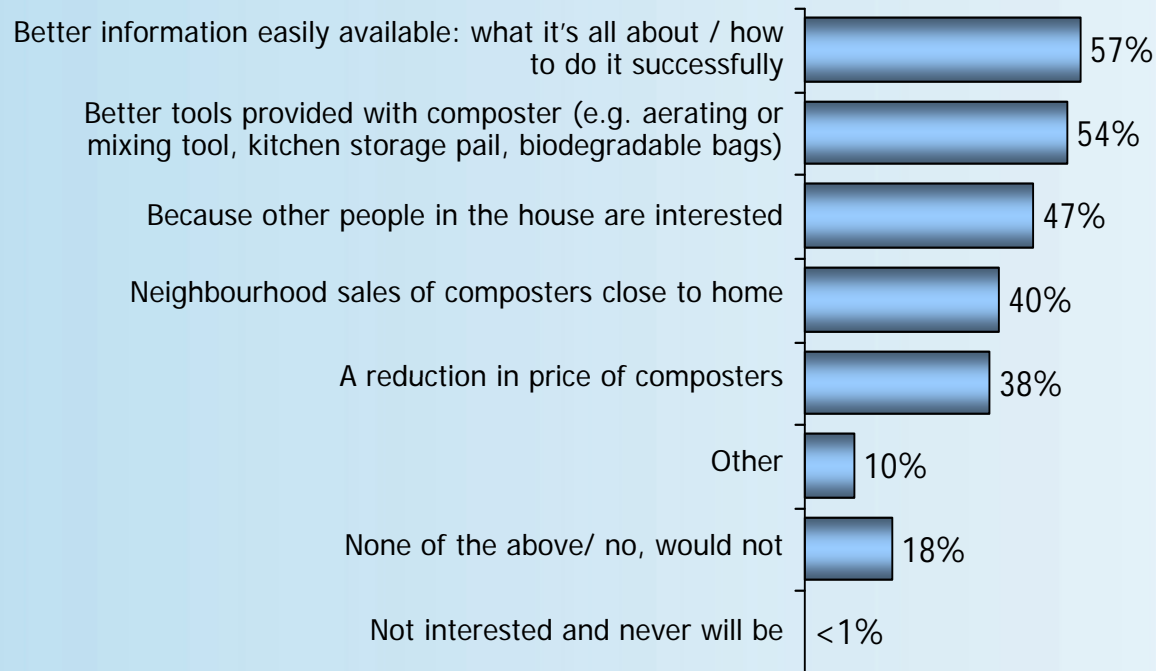


- Rodents are the top reason for not having a composter.
 - Residents of Southwest Vancouver and those who garden are much more concerned about rodents than other groups (27% and 37% , respectively).
- Other barriers include: yard too small, lack of knowledge, too much work, too messy/smelly.
 - The top reason for townhouse/ duplex dwellers is having too small a yard (22%).

Base: Total who have no composter (n=249)

Q.7) Could you please tell me why you currently do not have a backyard composter?

➤ Incentives That Would Encourage Composting



- Many of the proposed incentives are appealing to infrequent/non-composting residents
- Of greatest interest are better information and better tools provided with the composter.
 - ▶ 73% of those aged 44 and younger say they would be encouraged to start if better tools were provided.
- Convenient sale locations and price reductions also appeal to sizable segments.

Base: Total who use composter some of the time/ seldom/ never or no composter (n=311)

Q.8) Please tell me if any of the following would encourage you to start or to do more composting?

➤ Motivating Infrequent and Non-composting Residents

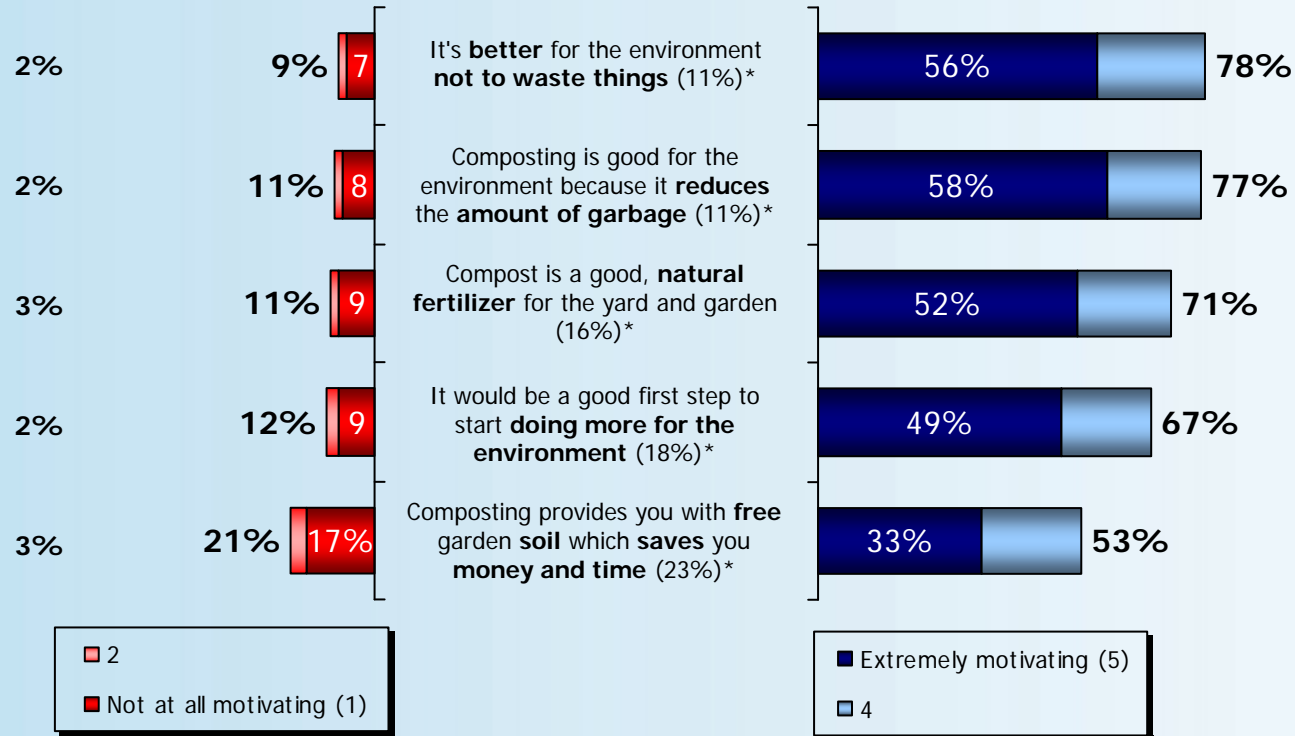
- Environmental benefits would provide the greatest motivation to compost for Vancouver residents who compost infrequently or not at all. The conservation and garbage reduction messages resonate best.
 - Not wasteful
 - Reduces amount of garbage
 - Natural fertilizer
 - Doing more for the environment

- Simplicity, time and cost savings are somewhat less persuasive:
 - Composting is simple and easy
 - Would cut down watering of the garden

- But these Vancouver residents are much less likely to be motivated by arguments countering possible unpleasant side effects, such as avoiding rodents and smells.
 - Easy to avoid attracting rodents
 - Easy to avoid smells

➤ Persuasiveness of Composting Benefits and Ease

**Not interested
and never will be**



Base: Total who use composter some of the time/ seldom/ never or no composter (n=311)

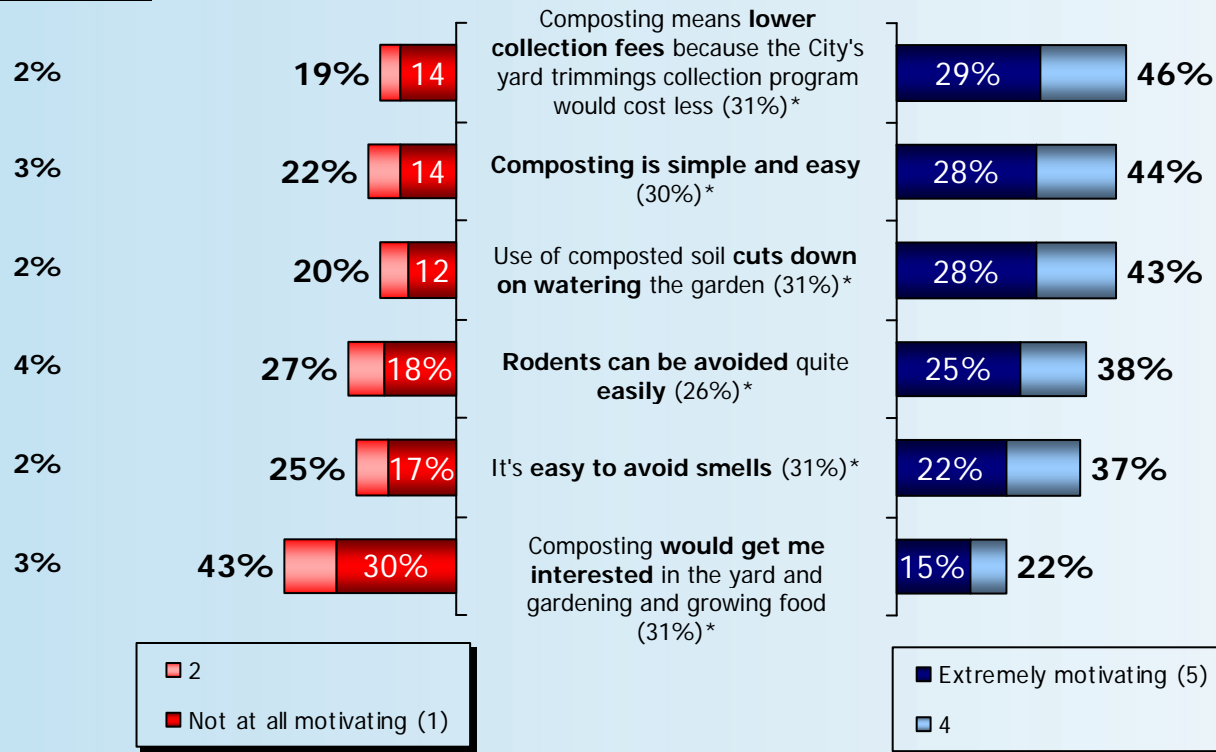
Q.9) Next, please rate each of the following statements on how much it motivates you to do composting? Please use a scale from 1 to 5 where 5 means "extremely motivating", 3 means neutral and 1 means "not at all motivating".

* % in brackets denote those who gave **neutral** rating ("3")

continued...

➤ Persuasiveness of Composting Benefits and Ease (cont'd)

Not interested and never will be



Base: Total who use composter some of the time/ seldom/ never or no composter (n=311)

Q.9) Next, please rate each of the following statements on how much it motivates you to do composting? Please use a scale from 1 to 5 where 5 means "extremely motivating", 3 means neutral and 1 means "not at all motivating".

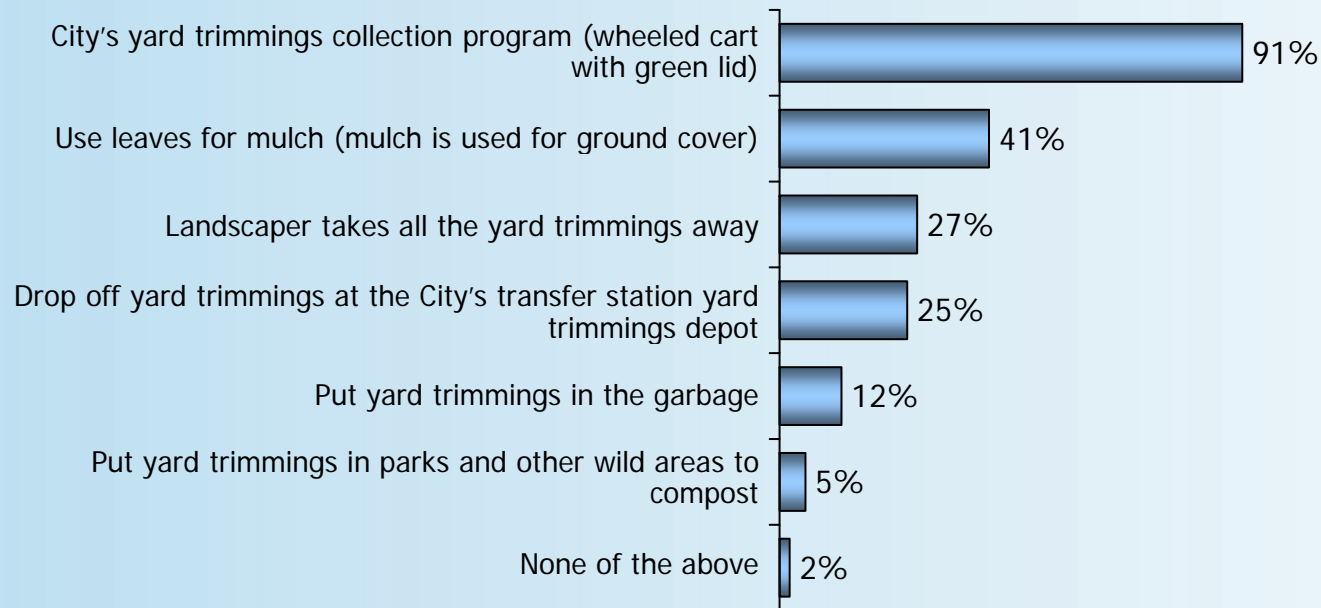
* % in brackets denote those who gave a **neutral** rating ("3")

➤ Groups More Persuaded by Types of Messaging

- The composting messages tested fall into five themes, with somewhat stronger appeal to certain population segments.

Composting message	Most persuaded	Least persuaded	
Reduces garbage	No differences of note		} Environmental benefits
Better for environment not to waste things	<ul style="list-style-type: none"> • Women • Gardeners • Grow food 	<ul style="list-style-type: none"> • Aged 65+ 	
Good natural fertilizer	<ul style="list-style-type: none"> • Women • Gardeners • Grow food • Southwest residents 		
First step to doing more for environment	<ul style="list-style-type: none"> • Women • Gardeners 		
Using compost cuts down watering	<ul style="list-style-type: none"> • Women • Gardeners 		} Convenience
Easy, simple	No differences of note		
Lower collection fees	<ul style="list-style-type: none"> • Younger (under 45 yrs) • Have no composter 		} Cost
Free garden soil	<ul style="list-style-type: none"> • Non-English speakers • Grow food 	<ul style="list-style-type: none"> • Northwest residents 	
Avoid rodents quite easily	No differences of note		} Avoiding unpleasant aspects
Avoid smells easily	No differences of note		
Would get me more interested in yard/garden/growing food	<ul style="list-style-type: none"> • Non-English speakers • Chinese speakers • Grow food 	<ul style="list-style-type: none"> • Northwest residents • Aged 65+ 	} 'Hobby' appeal

➤ Other Methods Used to Dispose of Yard Trimmings

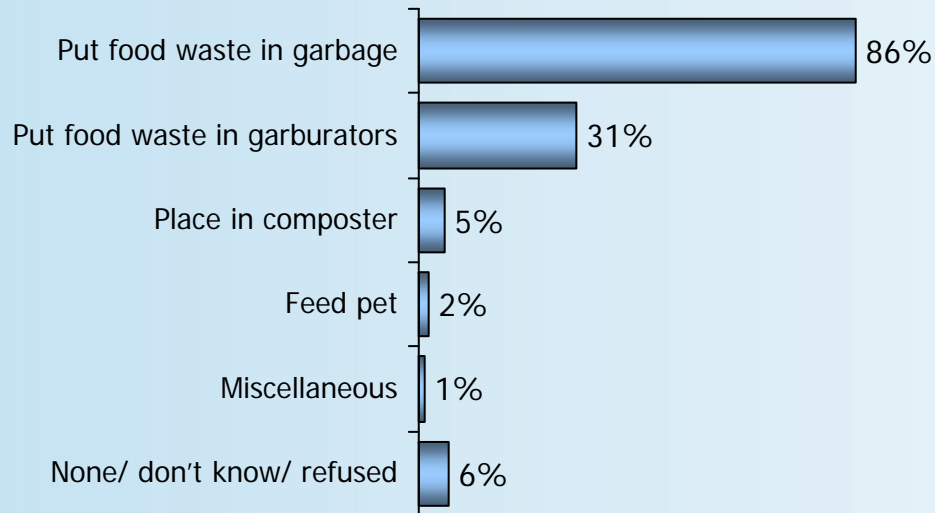


Base: Total (n=500)

Q.10) Which, if any, of the following other methods do you use to dispose of your yard trimmings?

- The City's yard trimming collection program is almost universally used by target residents.
 - ▶ Those more likely to use leaves for mulch are: gardeners, those who grasscycle, grow food or have a composter.
 - ▶ More apt to have the landscaper take all yard trimmings away are: those who do not grow food, those who use a grass service, and those with only a rear yard.

➤ Other Methods Used to Dispose of Food Waste



Base: Total (n=500)

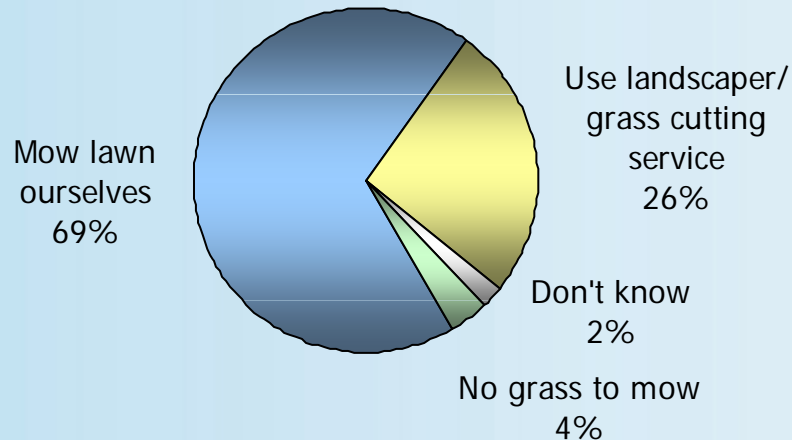
Q.10b) What other methods do you use to dispose of your food waste?

- With regard to food waste, by far the most popular method of disposal is putting food waste in the garbage.
- Garburators are the next most used method.
 - ▶ Using a garburator is much more common for those who do not have a composter (90%) or who live in a townhouse/duplex (53%).

➤ Grasscycling Section

- The research on grasscycling covers the following topics:
 - Incidence levels of self-mowing vs. using a service
 - Incidence of grasscycling
 - Frequency of grasscycling
 - Reasons for getting started and for continuing
 - Barriers to grasscycling
 - Appeal of incentives
 - Persuasiveness of benefit statements to motivate grasscycling
 - Frequency of mower blade sharpening

► Mow the Lawn Or Use a Grass Cutting Service

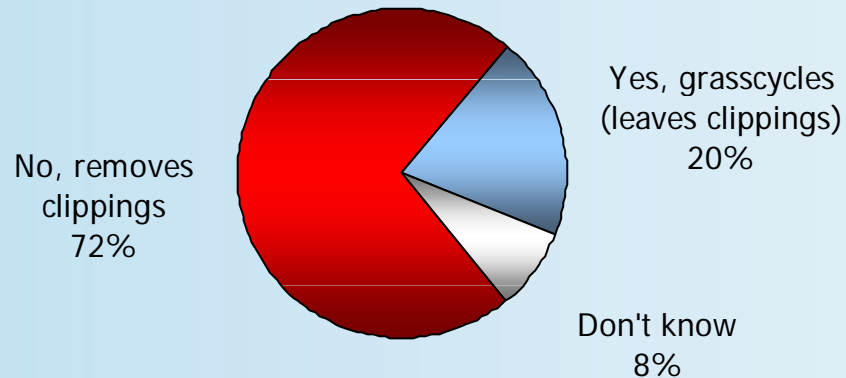


Base: Total (n=500)

Q.11) Do you or others in your household mow the lawn, or do you use a grass cutting service?

- The majority of target of Vancouver residents mow the lawn themselves—almost 7-in-10.
 - Residents of Southwest Vancouver are far more likely to use a landscaper/grass cutting service than residents of other parts of the city, followed by those in the Northwest (39% and 30%, respectively).
 - Those with both a front and back yard are much more likely to cut their own lawn (73% vs. 24% for those with only a back yard).

➤ Grass Cutting Service Practices

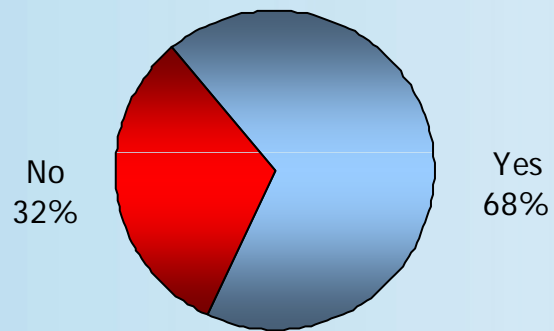


Base: Total who use grass cutting service (n=129)

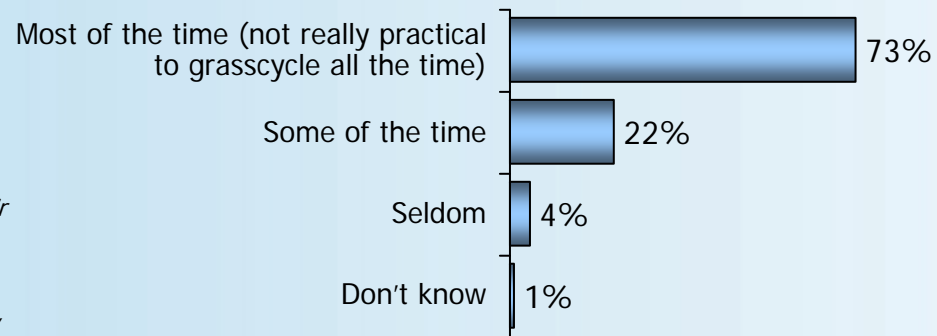
Q.11a) Does your grass cutting service do grasscycling...that is, leaving the clippings on the lawn rather than blowing or raking and removing?

- Residents who use a grass cutting service largely report that the service removes the grass clippings.
- Nevertheless, one-in-five say that their service leaves the clippings on the lawn.

➤ Grasscycling Practice in the Household



Frequency of Grasscycling



Base: Total who mow their own lawn (n=345)

Q.12a) Do you ever grasscycle when you mow the lawn...that is, leaving the clippings on the lawn rather than blowing or raking and removing?

Q.12b) How much do you grasscycle? Would you say:

Base: Total who grasscycle (n=233)

- Grasscycling is practised by a majority of those who mow their own lawn.
 - ▶ Grasscycling is more common among those who garden (74%) and those who own a composter (73%).
 - ▶ It is less common among non-English speakers (58% vs. 73% of English-only speakers), particularly Chinese-speakers (49%).
- The majority of residents who grasscycle do this most of the time.

➤ Profile of Residents Who Do and Do Not Grasscycle

	Total Market (500) %	Practice Grasscycling	
		Yes (233) %	No (112) %
Region			
North East	26	31	27
North West	30	26	26
South East	24	26	30
South West	21	18	17
Dwelling Type			
Single detached	86	92	92
Duplex/ Townhouse	14	8	8
Gender			
Male	48	51	55
Female	52	49	45
Age			
< 45 years	31	36	29
45-54 years	27	27	32
55-64 years	19	19	20
65 + years	21	17	17

- Demographically, those who do and those who do not grasscycle are quite similar.

➤ Residents Who Do and Do Not Grasscycle, cont.

	Total Market (500) %	Practice Grasscycling	
		Yes (233) %	No (112) %
Vehicle in Household			
Yes	92	92	96
No	8	8	4
Gardening Interest			
Gardener	36	38▲	28
Lawn enthusiast	12	14	11
Simply maintain	51	47	61▲
Have Composter			
Yes	51	60▲	47
Composting Level of Use			
Dedicated (All/most of time)	38	49▲	31
Grasscycling Level of Use			
Dedicated (All/most of time)	34	73▲	-
Low use (Some/Seldom)	44	27	-
Non-user (Never grasscycle)	22	-	100
Do not mow	31	-	-
Receptivity			
Want expert service (in-home)	14	13	19
Want info only	36	36	45
Do not want info	51	52▲	37

- From a behavioural point of view, those who grasscycle have a greater tendency:
 - ▶ To be gardeners
 - ▶ To have a composter
 - ▶ To grow food
 - ▶ To be dedicated about composting, in addition to grasscycling
- Non-grasscyclers have a greater tendency:
 - ▶ To “simply maintain” their yard (lack of garden/lawn interest)
 - ▶ But, to be more receptive to information/advice (64% vs. 49% of current grasscyclers).

Notations:

▲ Significantly higher @ 95% confidence level.

▲ Directionally higher (significant @ 90% confidence level).

➤ Reasons for Getting Involved in Grasscycling

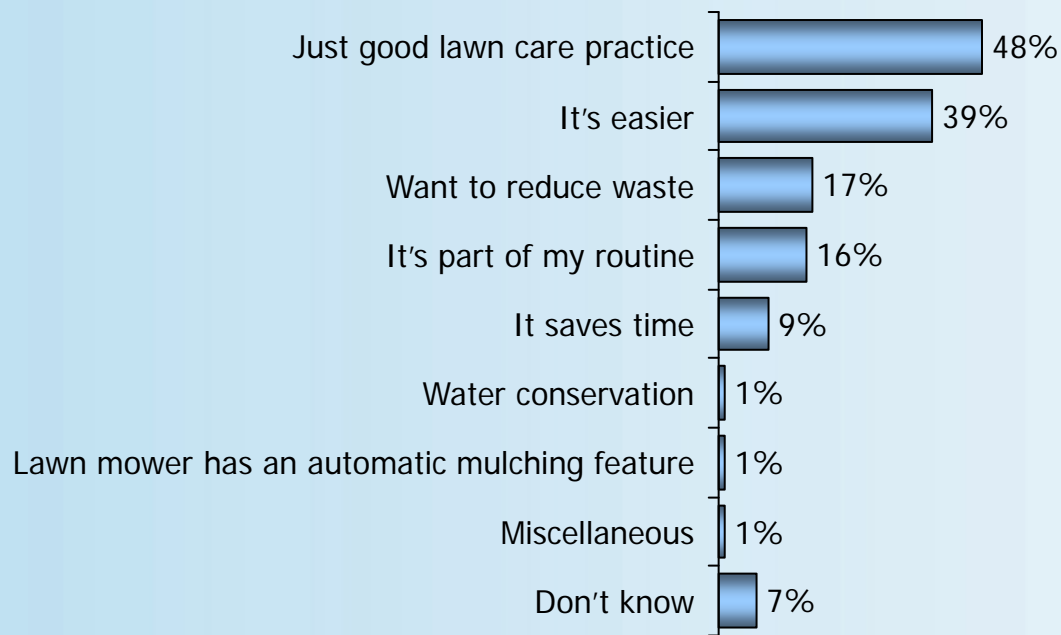


- For those who grasscycle most of the time, the predominant reasons for starting is that grasscycling is easier and is a good lawn practice.
 - Target residents of Northwest Vancouver are more likely to have started because it's simply easier to leave the clippings on the lawn, compared to residents of other areas.

Base: Total who grasscycle most of the time (n=170)

Q.13) What got you involved in grasscycling?

➤ Reasons for Continuing to Grasscycle

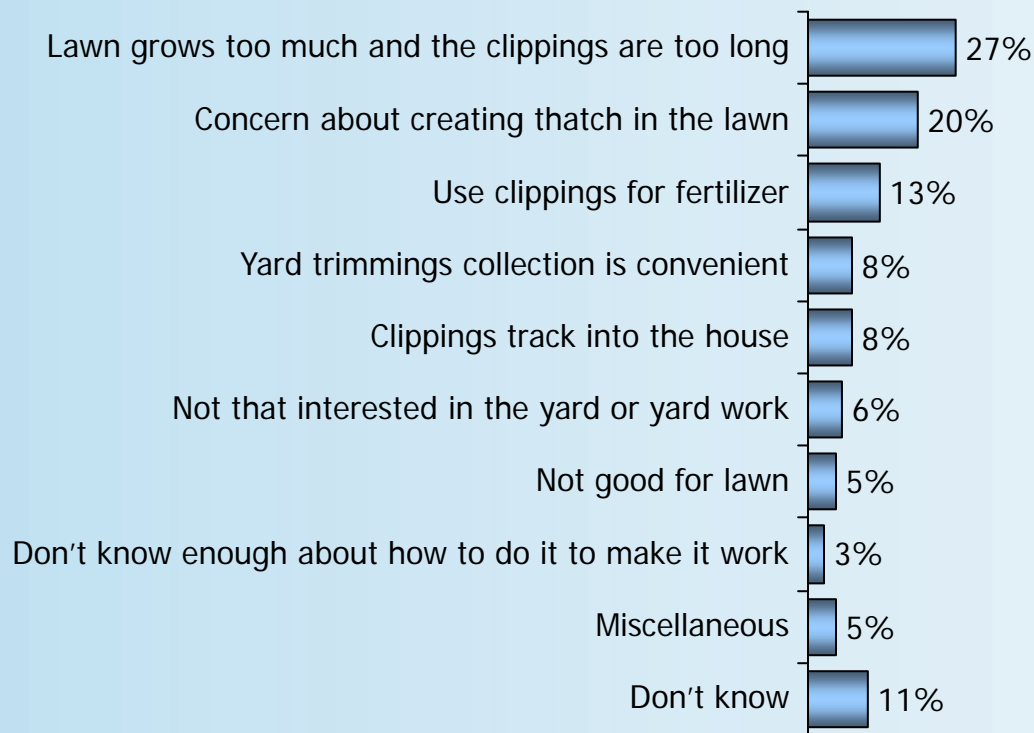


- For those who grasscycle most of the time, about half continue to do so because they consider it good lawn care practice.
- The fact that it's easier is the reason for a sizable proportion as well.

Base: Total who grasscycle most of the time (n=170)

Q.14) Why have you kept doing it?

► Reasons for Not Grasscycling More Often

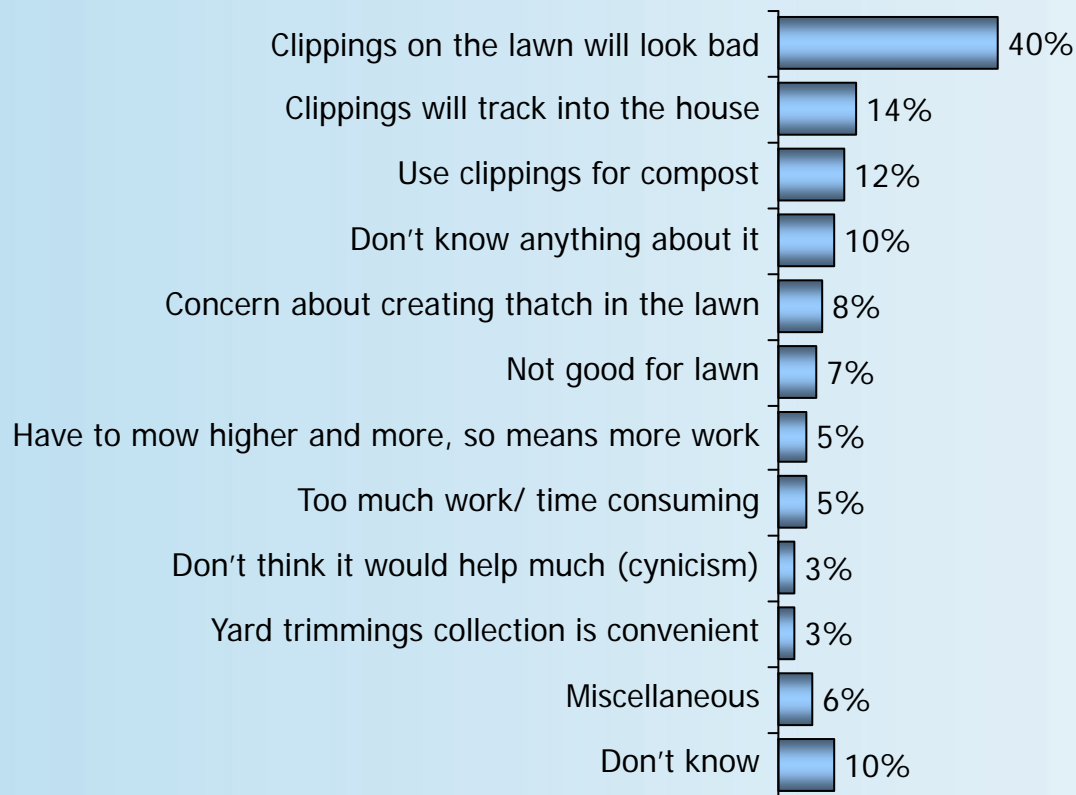


- The most common reasons for not grasscycling, among those who use the practice infrequently, are that:
 - the clippings are too long or
 - thatch might be created

Base: Total who grasscycle only some of the time or seldom (n=63)

Q.15) Why don't you do it more often?

► Reasons for Not Grasscycling At All



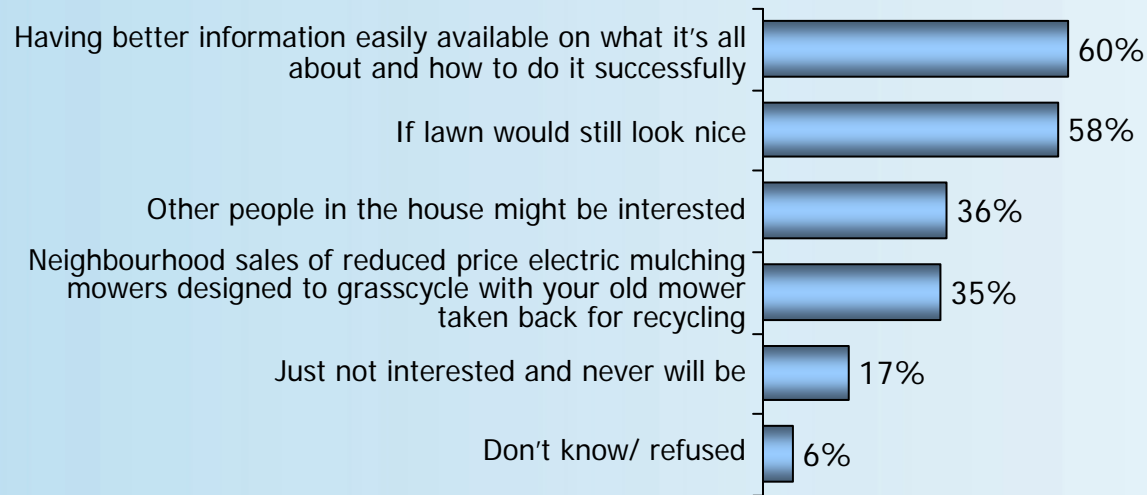
- The most common reason residents reject grasscycling is dislike of the appearance of the clippings on the lawn.

- Non-English speakers are much more likely to cite this reason (49% vs. 29% of English speakers).

Base: Total who don't grasscycle at all (n=112)

Q.16) Why don't you grasscycle, that is leave the clippings on the yard?

➤ Incentives That Would Encourage Grasscycling



Base: Total who grasscycle only some of the time, seldom or never (n=175)

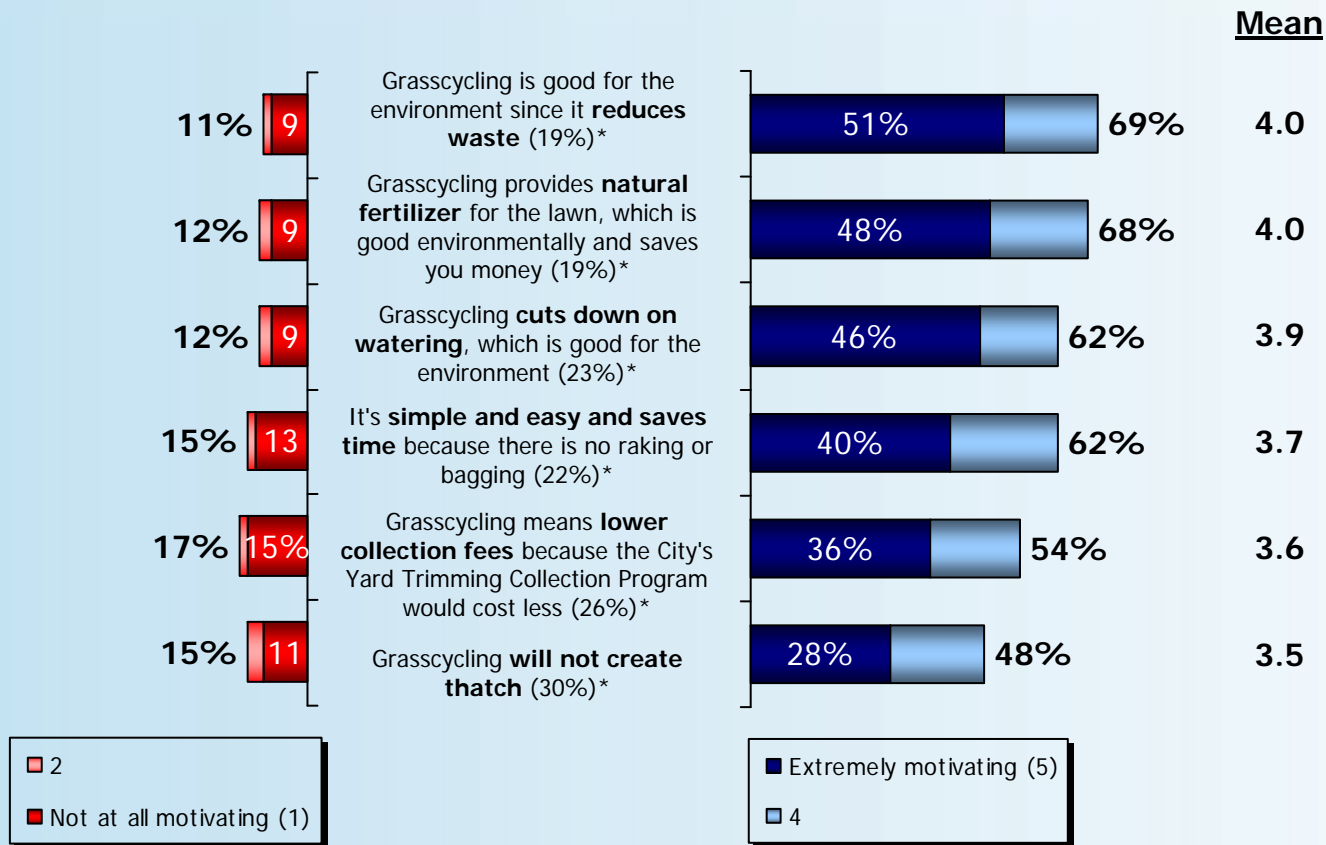
Q.17) Which, if any, of the following would encourage you to increase or start grasscycling?

- The most compelling incentives for those who infrequently or never grasscycle are:
 - ▶ Having better information easily available and
 - ▶ the assurance that the lawn would still look nice.
- Secondary incentives are if others in the household were interested and if there were neighbourhood sales of electric mulching mowers at reduced prices.
- Those under 45 years of age who rarely if ever grasscycle are especially encouraged by better information (79%), but also if others in the household were interested (52%).

➤ Persuasiveness of Grasscycling Benefits and Assurances

- Residents who seldom or never grasscycle were presented with a series of statements about the benefits and assurances about grasscycling.
- Once again, environmental benefits of grasscycling appear to be the most motivating to these infrequent and non-users of grasscycling.
 - The most motivating messages are that grasscycling helps the environment by:
 - ▶ Waste reduction and
 - ▶ Providing a natural fertilizer
 - The persuasiveness of the environmental arguments appear to be somewhat stronger in the case for composting than for grasscycling (77-78% for top two most-motivating composting messages vs. 68-69% for top two grasscycling messages).
- Residents may also be concerned that grasscycling would create thatch in their lawn. Although the least strong of the specific messages tested, fully half of those who sometimes/seldom/never grasscycle are motivated by this assurance—a significant proportion.

Persuasiveness of Grasscycling Benefits and Assurances (cont'd)



Base: Total who grasscycle only some of the time, seldom or never (n=175)

Q.18) Next, please rate each of the following statements on how much it motivates you to do grasscycling? Please use a scale from 1 to 5 where 5 means "extremely motivating", 3 means neutral and 1 means "not at all motivating".

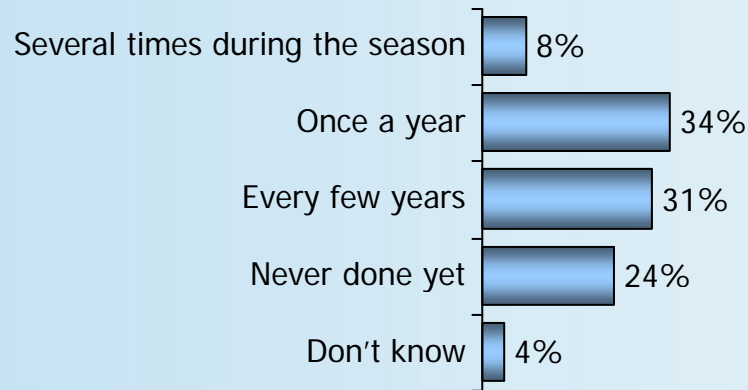
* % in brackets denote those who are neutral

➤ Groups More Persuaded by Messaging Themes

- The grasscycling messages tested fall into four themes, with somewhat stronger appeal to certain population segments.

Grasscycling message	Most persuaded	Least persuaded	
Good for environment since it reduces waste	<ul style="list-style-type: none"> Women Aged 45-54 years Chinese speakers 		▶ Environmental benefits
Natural fertilizer for lawn	No differences of note		
Cuts down on watering	<ul style="list-style-type: none"> Women 		▶ Convenience
Simple and easy (no bagging/raking)		<ul style="list-style-type: none"> Aged 65+ 	
Lower collection fees	<ul style="list-style-type: none"> Middle aged (45-64 yrs) highly motivated Southeast residents Non-English speakers 	<ul style="list-style-type: none"> Northwest residents 	▶ Cost
Will not create thatch	No differences of note		▶ Avoiding unpleasant aspects

➤ Frequency of Sharpening Lawn Mower Blades



Base: Total who mow their own lawn (n=345)

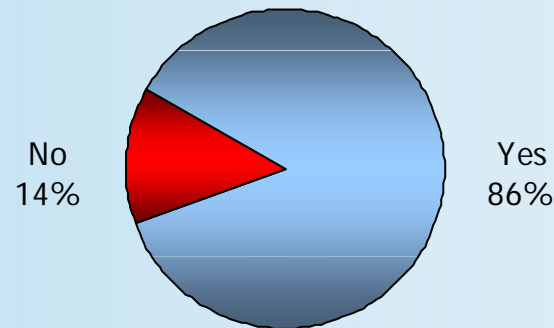
Q.19) How often do you have your mower blades sharpened?

- Residents who mow their own lawn tend to sharpen the mower blades once a year or every few years.
- Very few residents have the blades sharpened several times a season.
- Younger residents (under 45 years) are more likely to have never sharpened (36%).

➤ Communications Section

- The research on communications covers the following topics:
 - Use of communications channels (Internet, newspapers, radio, television)
 - Awareness of composting and grasscycling materials and information channels (Hotline, website, booklet)
 - Interest in receiving more information
 - Channels for more information

➤ Have Internet Access at Home

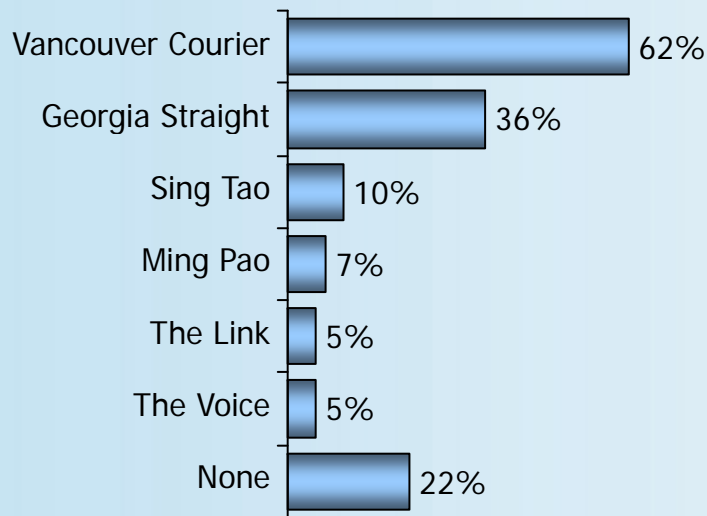


Base: Total (n=500)

Q.20) Do you have internet access at home?

- The vast majority of target residents have internet access at home,
 - ▶ but the tendency decreases with age — 95% of those under 45 years have internet access vs. 57% of those aged 65+.
 - ▶ Virtually all the lawn enthusiasts have internet access, compared to 84% of gardeners and 84% of those who simply maintain their yard.

➤ Monthly Readership of Selected Small, Local Newspapers

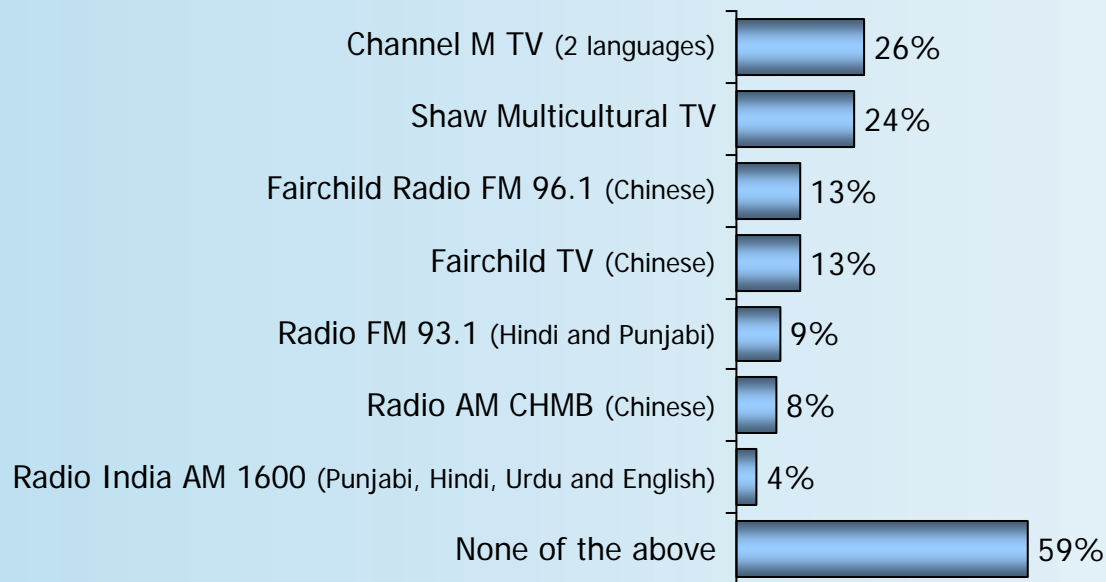


Base: Total (n=500)

Q.21) Which of these newspapers do you read at least once a month?

- The Vancouver Courier is the most-read of the selected newspapers followed by the Georgia Straight.
 - ▶ The Courier is the most popular of these papers across all groups,
 - ▶ And particularly among gardeners (71%) and English speakers (67%), relative to their counterparts.
- Among Chinese speakers, after the Courier, Sing Tao is the number-two paper for Chinese language speakers (47%) and the Ming Pao number three (36%).
- Vying for number two position among South Asian/Other Asian language speakers, after the Vancouver Courier are The Voice (44%) and The Link (41%).

➤ Ethnic Radio & Television Stations Used on Regular Basis

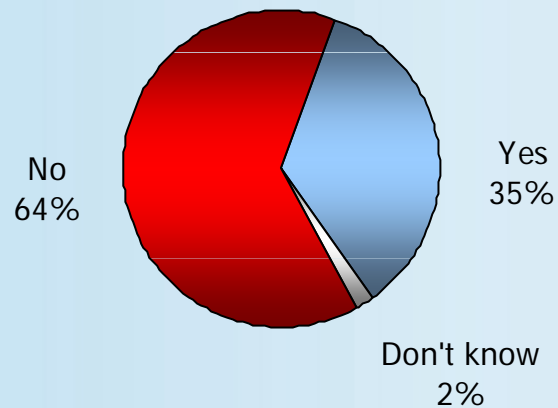


Base: Total (n=500)

Q.22) Do you use any of the following radio and television stations on a regular basis?

- Channel M TV and Shaw Multicultural TV are the most popular radio and television stations, particularly among residents of North East and South East Vancouver.
 - ▶ Chinese language speakers also watch Fairchild Chinese TV (57%) and Channel M (57%) the most, followed by Fairchild Radio (51%), Shaw Multicultural TV (41%) and CHMB AM Chinese radio (35%).
 - ▶ In addition to high use of Shaw Multicultural (79%) and Channel M (66%, not statistically different), South Asian/other Asian language speakers also use Radio FM 93.1 and Radio India AM (both 44%).
- The majority of English speakers (73%) do not use any of these stations.

➤ Aware of Metro Vancouver's "Composting Hotline"

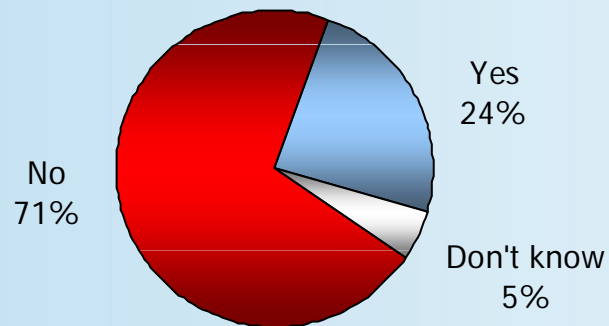


Base: Total (n=500)

Q.23) Are you aware that the Greater Vancouver Region operates a "Composting Hotline" to answer questions? (If wants to know the #: 604-736-2250)

- Over one-third of target residents are aware of the Metro Vancouver Composting Hotline.
 - ▶ Most aware are gardeners (50%), those with composters (45%) and grasscyclers (43%).
 - ▶ Residents aged 45+ are more aware than their younger counterparts (about 40% vs. 24%).
- However, the majority are unaware of this hotline,
 - ▶ particularly Chinese speakers (77%).

➤ Recall Receiving City's "Grow Natural" Booklet

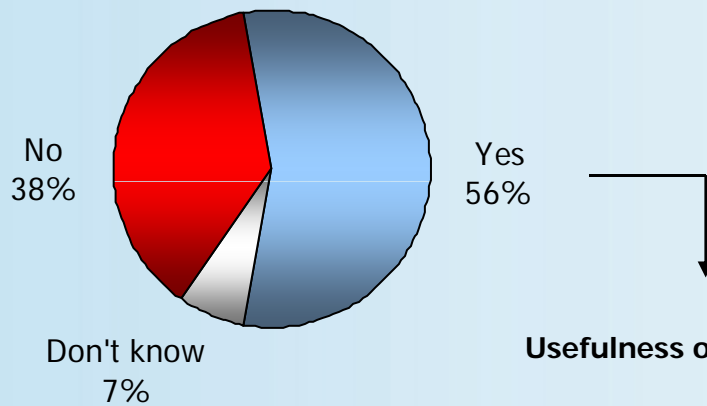


Base: Total (n=500)

Q.24) Do you remember getting a natural yard-care booklet call "Grow Natural" from the City a few years ago?

- About one-quarter of target residents recall receiving the Grow Natural booklet a few years ago.
- Most likely to recall receipt are:
 - ▶ English speakers (40%)
 - ▶ Gardeners (34%)
 - ▶ Those with composters (30%)
 - ▶ Residents aged 45+ (29%)

➤ Kept the “Grow Natural” Booklet

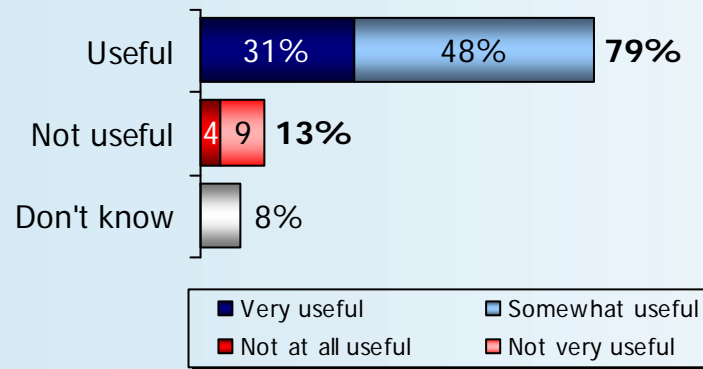


- About half of those who do remember receiving the booklet have kept it
- And they generally have found it useful.

Base: Total remember getting “Grow Natural” booklet (n=122)

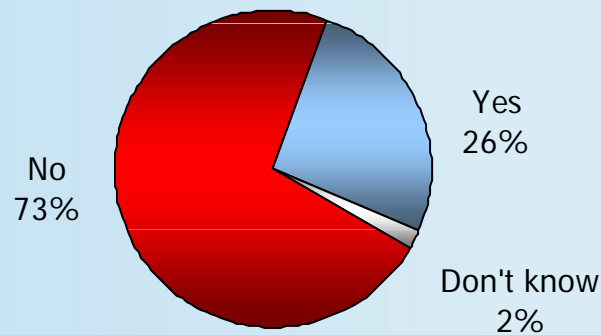
Q.24a) Did you keep it?
 Q.24b) Would you say it was:

Usefulness of the Booklet



Base: Total remember getting “Grow Natural” booklet (n=122)

➤ Aware of the City's Website www.grownatural.ca

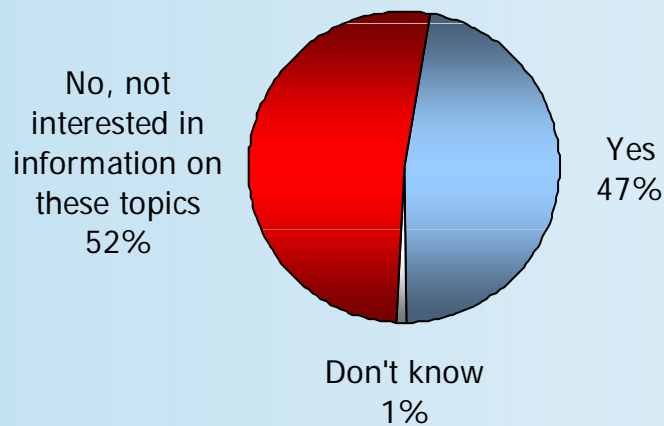


Base: Total (n=500)

Q.25) Are you aware that the City has a website which contains basic information about composting at grownatural.ca?

- About one-quarter of target residents are aware of the www.grownatural.ca website.
- More aware are:
 - ▶ Gardeners (35%)
 - ▶ Those who grasscycle (36%)
- Least aware of the website are:
 - ▶ Chinese speakers (16%)
 - ▶ Those aged under 45 (16%)
 - ▶ Never grasscycle (11%)

➤ Interest in Information on Backyard Composting and Grasscycling

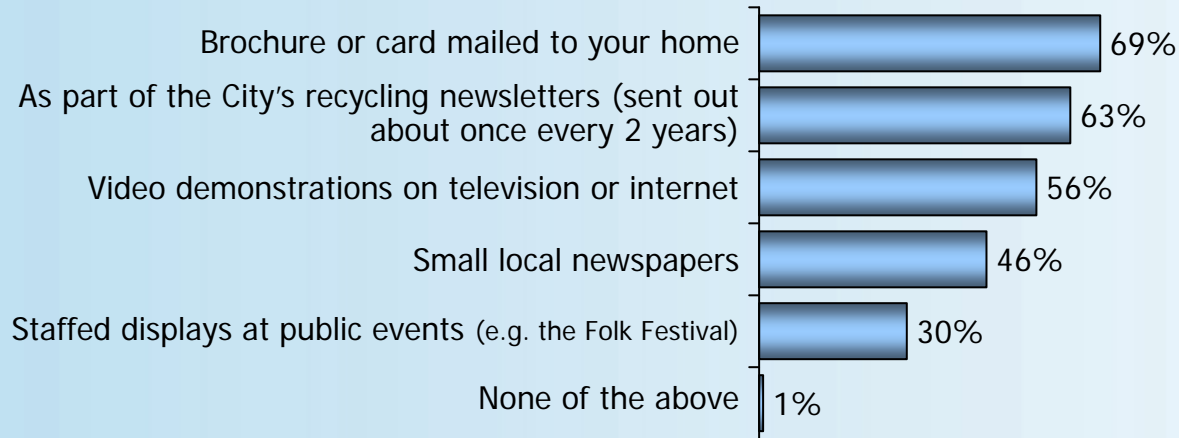


Base: Total (n=500)

Q.26) Are you interested in receiving information from the City about backyard composting and grasscycling?

- Almost half of the target population is interested in receiving information on composting and grasscycling.
- Most interested are:
 - ▶ Lawn enthusiasts (65%)
 - ▶ Chinese speakers (62%)
 - ▶ Those who have never grasscycled (61%)
- Least interested are:
 - ▶ Those aged 65+ (24%)
- Of those interested in backyard composting and grasscycling:
 - ▶ Composter owners (45%)
 - ▶ Have grasscycled before (46%)

➤ Preferred Ways to Obtain Information

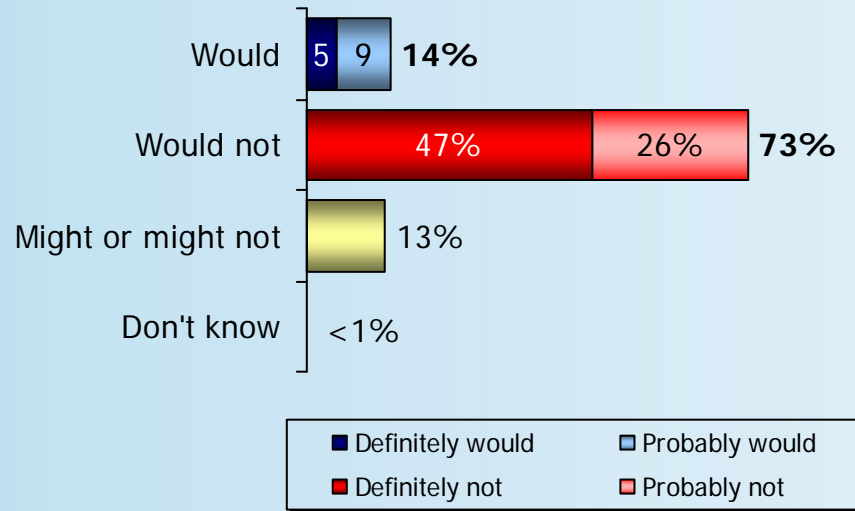


Base: Total interested in receiving information from the City about backyard composting and grasscycling (n=237)

Q.26b) Which of the following ways do you prefer to get such information?

- Most people prefer a brochure or card mailed to their home, or getting the information with the City's recycling newsletters.
- Chinese speakers are also highly interested in video demonstrations on TV or the internet (77%).
- Staffed displays at events are least popular with those in the Southwest (14%).

➤ Likelihood to Purchase Expert Advisor Service

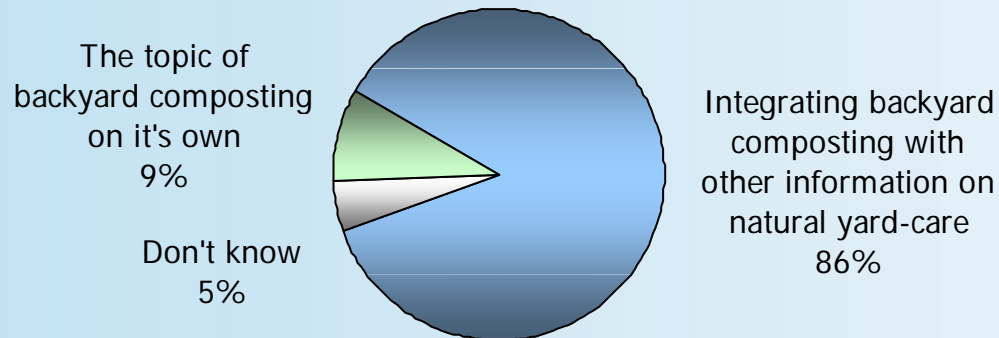


Base: Total (n=500)

Q.27) Another option under consideration is to offer home visits by expert advisors on these topics. Would you prefer and be willing to pay \$25.00 to get a home visit by an expert advisor to help you with the whole topic of natural yard-care, including composting, grasscycling, water conservation and the elimination of pesticides? The \$25.00 is a subsidized rate. How likely would you be to purchase this service? Would you say you:

- About 14% of target residents say they would be willing to pay \$25 for a home visit by an expert advisor on the topic of natural yard care.
- A total of 5% say they are definitely likely to do so. Based on a common marketing research formula, the maximum expected take-up rate would be 5% if all residents were aware of the service.

➤ Preference for Information in Integrated Format



Base: Total interested in receiving information from the City about backyard composting and grasscycling (n=237)

Q.28) When receiving further information on backyard composting from the City, would you prefer:

- The vast majority of target residents express interest in receiving information on composting that is integrated with other information on natural yard-care.
- This general preference is found among the various demographic and user groups examined, including ESL households (75% of whom prefer integrated information on composting and natural yard-care).

➤ Potential for Future Promotions Section

- To evaluate the potential for future City promotions of composting and grasscycling, the survey results were used in combination with known statistics and some basic assumptions to estimate future consumer take-up. Note that the City is also investigating the experience of other similar communities carrying out similar programs to arrive at another, and perhaps more realistic, prediction of eventual purchase of composters.
- A spreadsheet is appended which details the statistics and survey data used and the assumptions made in arriving at these estimates.
 - Approximate potential for **future City composter sales**:
 - 5% of ground-oriented dwelling units, or about 5,100 new composters
 - 1% of this potential is represented by the Chinese-speaking community, or about 1,300 composters
 - Approximate potential for **future adoption of grasscycling**:
 - Just under 5% of ground-oriented dwelling units, or about 4,700 households
 - About 1% of this potential is represented by the Chinese-speaking community, or about 1,500 households

➤ Demographics Section

- This section presents the following demographic profiles:
 - A total resident/household profile in the targeted areas of the City (excluding Downtown/West End/Yaletown)—this includes apartments in the study areas.
 - A profile of target market residents/households for composting and grasscycling—this includes only those in ground-oriented dwellings with personal yard areas
 - A profile of those who express interest in receiving information from the City on composting and natural yard care

Demographic Profiles

	Total City Residents excl. W.End /Downtown* (507) %	Total Target Heads of Household (500) %	Total Want info (234) %
Gender			
Male	48	47	44
Female	52	53 ▲	56 ▲
Home Ownership			
Rent	36	16	16
Own	61	83	82
Other	3	1	2
Age			
Under 35	33	9	2
35 - 44	20	23	29
45 - 54	18	27	28
55 - 64	12	19	21
65 or older	15	21	11
Type of Dwelling			
Single, detached house	60	78	89 ▲
Duplex or townhouse	28	17	11
Apartment or condo	9	5	0
Other/ refused	4	1	0
Type of Yard			
Front yard only	n/a	6	3
Back yard only	n/a	5	6
Both	n/a	84	91 ▲
Common Area	n/a	1	0
Do not have a yard area	n/a	3	0

* Results from annual City of Vancouver Budget Allocation Survey, excludes the Downtown peninsula, but includes apartment dwellers elsewhere in the City.

- City of Vancouver heads of household in targeted types of dwellings are skewed slightly female.
- Most live in single, detached houses and have both a front and back yard.
- These two groups, females and residents of single detached houses, are also the most receptive to receiving information on composting/ grasscycling.

Notations:

- ▲ Significantly higher @ 95% confidence level.
- ▲ Directionally higher (significant @ 90% confidence level).

continued...

➤ Demographic Profile (cont'd)

	Total City Residents excl. W.End /Downtown* (507) %	Total Target Heads of Household (500) %	Total Want info (234) %
Ethnic Background			
British	32	38	34
Chinese (Hong Kong, China, Taiwan, or other)	30	21	27
German	5	10	6
East European	9	9	11
Canadian	8	5	6
South Asian (East Indian, Punjabi, Hindi)	2	4	5
French	3	4	4
Italian	2	4	4
Other	5	14	7
Refused/don't know	1	3	2
# of People Live in Household 2006 Census projection			
1	34	11	6
2	29	31	24
3	15	19	21
4	(4-5 in household) 18	22	28
5+	(6+ in household) 4	17	18
Refused	-	2	2
# Years Resident of Vancouver			
1 – 5 years	(<5 yrs) 17	18	16
6 – 10 years	(5-9 yrs) 13	13	17
11 – 20 years	(10-19 yrs) 25	15	20
More than 20 years	(20+ yrs) 43	54	47

* Sources: Annual City of Vancouver Budget Allocation Survey and 2006 Census; excludes Downtown peninsula, but includes apartment dwellers elsewhere in the City.

- City of Vancouver residents are skewed towards those of British background.
- The next largest ethnic background is Chinese.
- The resident population is also skewed older.

continued...

Demographic Profile (cont'd)

	Total City Residents <u>excl. W.End /Downtown*</u> (507) %	Total Target <u>Heads of Household</u> (500) %	Total <u>Want info</u> (234) %
Highest Level of Education 2006 Census projection			
Grade school or some high school	18	7	7
Completed high school	24	13	13
Technical school/ college/ Some university	21	20	19
Completed university	37	32	34
Post-graduate degree	n/a	25	27
Refused	-	2	1
Household Income (total answering)			
Less than \$30,000	16	10	14
\$30,000 to less than \$50,000	21	12	11
\$50,000 to less than \$70,000	16	13	13
\$70,000 to less than \$100,000	10	14	13
\$100,000 and over	20	28	31
Don't know/ refused	16	23	13

- Over half of target heads of household (57%) have one or more university degrees, and 42% have household incomes over \$70,000 per year.
- Those most likely to want composting/ natural yard care information are more likely than the population overall to hold university degrees and be in the highest income categories.

Appendices

- Questionnaire
- Market Estimates



MUSTEL GROUP
MARKET RESEARCH

Questionnaire FINAL: May 18, 2007

Hello, I'm calling on behalf of the City of Vancouver. My name is ____ of Mustel Group, a professional opinion research firm, conducting a survey for the City on a few different topics. This is strictly an opinion survey; we are not selling or soliciting anything.

SCREENER

A. ASK TO SPEAK WITH A MALE OR FEMALE HEAD OF THE HOUSEHOLD

If yes, continue.

If no, ask: "MAY I PLEASE SPEAK TO THAT PERSON" (RE-READ INTRODUCTION)

IF NECESSARY, SCHEDULE CALL-BACK TIME.

B. First of all, is anyone in this household an elected official of the City of Vancouver or an employee of the City of Vancouver? IF YES, THANK & END → RECORD as NOT ELIGIBLE.

B2. IF RESPONDENT HAS AN ACCENT: This survey is available in: English, Cantonese, Mandarin and Punjabi,. Which language would you prefer?

IF English → CONTINUE

IF Cantonese, Mandarin or Punjabi → ARRANGE CALLBACK INTERVIEW

IF PREFERS DIFFERENT LANGUAGE: We do not have that language available, may we continue in English?

Persuaders—only if needed:

- This is strictly an opinion survey; we are not selling or soliciting anything.
- Your number was selected at random for participation in this research.
- The survey is being conducted for The City of Vancouver.
- This study is important as it will help The City of Vancouver better understand the opinions and needs of residents in your area.
- All responses are strictly confidential and anonymous; your identity is never revealed to anyone else, including the client.
- The survey takes anywhere from 10-15 minutes, depending on your answers.
- Contact name: Lindsay Moffit at City of Vancouver Engineering Services, PHONE: 604-871-6058

Privacy Issues:

- Mustel Group is committed to protecting your privacy and the confidentiality of your personal information.
- Mustel Group is committed to keeping the personal information you share with us confidential.
- The information you provide will only be used for the purposes of this research. Under no circumstances do we sell contact lists or personal information to others.
- The information you provide will be retained only for the time it is required for the purposes of this research.
- Mustel Group will protect the information you provide with appropriate safeguards and security measures.
- We are fully compliant with the new federal privacy legislation (New act is called PIPEDA: Personal Information Protection and Electronic Documents Act)
- The information you provide will be combined with the responses given by all other survey respondents and reported only in aggregate form. Your answers will remain completely confidential and anonymous.

C. Do you live in the City of Vancouver itself?

1. Yes CONTINUE
2. No **THANK & TERMINATE AS 'OUT OF STUDY AREA'**

Questionnaire FINAL: May 18, 2007

C1a. We're speaking to people from different neighbourhoods in the City of Vancouver.

C1b. Do you live north or south of King Edward or East 25th Avenue?

1. North
2. South

C2. And, do you live east or west of Main Street?

1. East
2. West

If "North" of King Edwardth AND "West" of Main Street, ASK:

C3. Do you live in the: READ:

1. Westend/Downtown Vancouver? → **THANK & TERMINATE 'OUT OF STUDY AREA'**
2. UBC Endowment Lands/UBC Campus? → **THANK & TERMINATE 'OUT OF STUDY AREA'**
3. DNR NO (Put in North West)

Thank you but today we are talking to people who live in a different area.

WATCH AREA QUOTAS: → APPROXIMATELY EQUAL # COMPLETES IN EACH AREA

- If "North" in C1 and "East" in C2, put in North East
- If "North" in C1 and "West" in C2 and "No" in C3, put in North West
- If "South" in C1 and "East" in C2, put in South East
- If "South" in C1 and "West" in C2, put in South West

Next we have a few questions to see if you fall into the study group.

C4. How many years have you been a resident of the City of Vancouver? READ

Less than one year → **THANK AND TERMINATE NQ: Thank you but today we are talking to people who've lived in the City longer than one year**

- 1-5 years
- 6-10 years
- 11-20 years
- More than 20 years

C5. What type of dwelling do you live in? Is it a...READ LIST. ACCEPT ONE ANSWER ONLY

1. Single, detached house
2. Duplex or townhouse
3. Apartment or condo → **THANK AND TERMINATE AS NON-QUALIFIER (NQ)**
96. Other (SPECIFY; RECODE ABOVE IF APPROPRIATE) → **THANK & TERMINATE (NQ)**
- DK/REF → **THANK AND TERMINATE**
- IF TERMINATE, SAY: **Thank you but today we are talking to people who have a yard area.**

C6. And do you have a front yard, a back yard or both?

1. Front Yard
2. Back Yard
3. BOTH
4. COMMON AREA: **PROBE: Do you have a personal yard space for your unit? IF YES, RECODE ABOVE. IF NO → THANK AND TERMINATE (NQ)**
5. DO NOT HAVE A YARD AREA → **THANK AND TERMINATE (NQ)**
- DK/REF → **THANK AND TERMINATE**
- IF TERMINATE, SAY: **Thank you but today we are talking to people who have a yard area.**

Questionnaire FINAL: May 18, 2007

C7. Are you the person who looks after the yard, co-manages the yard or knows how the yard is managed?

1. Looks after
2. Co-manages (SHARES RESPONSIBILITY WITH ANOTHER HHLD. MEMBER)
3. Knows how yard is managed

DK/REF → **ASK TO SPEAK TO HHLD MEMBER WHO DOES.**

NONE OF THESE → IF NO RESPONSIBILITY OR KNOWLEDGE OF YARD MANAGEMENT → **ASK TO SPEAK TO HHLD MEMBER WHO DOES.**

IF ABSENTEE OWNER/ PROPERTY MANAGER LOOKS AFTER IT → **THANK & TERMINATE (NQ)** IF TERMINATE, SAY: **Thank you but** today we are talking to people who look after their yard area.

CONFIRM Q. C-7. CONTINUE WITH THE PERSON WHO IS RESPONSIBLE FOR or KNOWS HOW YARD IS MANAGED.

C8. RECORD GENDER OF DESIGNATED RESPONDENT (OBSERVE)

1. Male
2. Female

C9. Would you consider yourself: a gardener or a lawn enthusiast, or would you say you simply have a yard and maintain it as needed?

1. Gardener
2. Lawn Enthusiast
3. Simply maintains yard as needed

DK/REF

C9. Do you grow any food in your yard?

1. Yes
 2. No
- DK/REF

COMPOSTING SECTION

1. Next we are going to talk about composting ... that is, disposing of kitchen waste and yard clippings in a special outdoor container or a pile where it can decompose.

Do you have a backyard composter? (MUST BE AN OUTDOOR COMPOSTER)

1. Yes
 2. No (NO COMPOSTER)
- DK/REF

IF YES IN Q1 → ASK Q2-6. IF NO/DK/REF → SKIP TO Q7

2. Is it a composter provided by the City (that you purchased/got from the City), that you bought from the store or is it one that you or someone in your household made?

1. Provided by the City, that you purchased / received from the City
2. Bought from the store
3. Made own composter (home-made)
4. OTHER (SPECIFY) _____
DK / REF

3. How much do you use your composter? Would you say....

- | | | |
|---|------------------|-------------------------|
| 1 | All of the time | GO TO Q4 & 5 |
| 2 | Most of the time | GO TO Q4 & 5 |
| 3 | Some of the time | GO TO Q6 |
| 4 | Seldom | GO TO Q6 |
| 5 | Never | GO TO Q6 |
| | DK / REF | |

IF Q3 = 1 OR 2 (All/Most of time) → ASK Q4-5, THEN GO TO Q10 DIRECTIVE

4. What first got you involved in backyard composting? DO NOT READ.

1. CITY ADVERTISING AND SALE OF COMPOSTERS
2. END PRODUCT (SOIL) IS GOOD AND USEFUL
3. JUST GOOD GARDENING AND YARD PRACTICE
4. WANT TO REDUCE WASTE AND AID THE ENVIRONMENT
5. FRIEND/NEIGHBOUR/FAMILY DOING IT
96. OTHER SPECIFY: _____
DK / REF

5. Why have you kept doing it? DO NOT READ. PROBE FOR SPECIFICS.

1. CITY ADVERTISING AND SALE OF COMPOSTERS
2. END PRODUCT (THE SOIL) IS GOOD AND USEFUL
3. JUST GOOD GARDENING AND YARD PRACTICE
4. WANT TO REDUCE WASTE & HELP THE ENVIRONMENT
5. IT'S PART OF MY ROUTINE
96. OTHER SPECIFY: _____
DK / REF

5b-d) COMPOSTING PRACTICES:

- 5b)** Do you aerate the compost (mix it occasionally?) YES/NO
- 5c)** Do you add layers of soil or other matter on top of the layers of food waste? YES/NO
- 5d)** Do you usually remove the composted soil each year? YES/NO

IF Q3 = 3, 4 OR 5, →ASK Q6 THEN GO TO Q8 DIRECTIVE.

6. Why don't you do it more often? DO NOT READ.

1. TOO BUSY / NOT ENOUGH TIME
2. TOO MESSY AND SMELLY
3. DON'T KNOW ENOUGH ABOUT HOW TO MAKE IT WORK
4. YARD TRIMMINGS COLLECTION IS MORE CONVENIENT
5. NOT THAT INTERESTED IN THE YARD AND YARD WORK
6. WORRIED ABOUT RODENTS OR HAD A PROBLEM WITH RODENTS
7. HAVE TOO MUCH YARD WASTE (DOESN'T ALL FIT)
96. OTHER SPECIFY: _____
DK / REF

IF Q1 = 2 (NO COMPOSTER) → ASK Q7

7. Could you please tell me why you currently do not have a backyard composter? DO NOT READ

1. DON'T KNOW ANYTHING ABOUT IT
2. TOO MUCH WORK
3. TOO MESSY AND SMELLY
4. YARD TRIMMINGS COLLECTION IS CONVENIENT
5. NOT PART OF MY ROUTINE
6. NOT THAT INTERESTED IN THE YARD AND YARD WORK
7. WE USE LANDSCAPING SERVICE or OTHERS LOOK AFTER THE YARD
8. WORRY ABOUT RODENTS
9. WOULDN'T HELP MUCH (CYNICISM)
10. TOO EXPENSIVE (CITY COMPOSTERS ARE \$25.00)
11. TOO FAR TO GO (TO THE CITY'S TRANSFER STATION) TO GET A COMPOSTER
12. UNATTRACTIVE IN MY YARD
96. OTHER SPECIFY: _____
DK / REF

IF Q1 = 2 (NO COMPOSTER) or IF Q3 = 3, 4 OR 5 → ASK Q8-9
IF Q3 = 1,2 → SKIP TO Q10

8. Please tell me if any of the following would encourage you to start or to do more composting?
READ & RANDOMIZE.

	Yes, it would	No, would not	DK/ REF
1. A reduction in price of composters			
2. Having neighbourhood sales of composters close to your home			
3. Having better information easily available on what it's all about and how to do it successfully			
5. Better tools provided with the composter (e.g. an aerating or mixing tool and kitchen storage pail and maybe biodegradable bags to keep the container clean)			
6. Because other people in the house are interested			
96. Any other way you might be encouraged to start? SPECIFY			
97. NOT INTERESTED AND NEVER WILL BE DO NOT READ			

9. Next, please rate each of the following statements on how much it motivates you to do composting? Please use a scale from 1 to 5 where 5 means "extremely motivating", 3 means neutral and 1 means "not at all motivating" **RANDOMIZE LIST**

	Extremely motivating 5	4	Neutral 3	2	Not at all motivating 1	DK/ REF
1. Composting means lower collection fees because the City's yard trimmings collection program would cost less.						
2. It's better for the environment not to waste things						
3. Rodents can be avoided quite easily.						
4. It's easy to avoid smells						
5. Compost is a good, natural fertilizer for the yard and garden						
6. Use of composted soil cuts down on watering the garden						
7. Composting provides you with free garden soil which saves you money and time						
8. Composting is good for the environment because it reduces the amount of garbage						
9. Composting is simple and easy.						
10. Composting would get me interested in the yard and gardening and growing food.						
11. It would be a good first step to start doing more for the environment.						
97. NOT INTERESTED & NEVER WILL BE DO NOT READ						

EVERYONE

10. Which, if any, of the following other methods do you use to dispose of your yard trimmings? READ

1. City's yard trimmings collection program (wheeled cart with green lid)
 2. Landscaper takes all the yard trimmings away
 3. Drop off yard trimmings at the City's transfer station yard trimmings depot
 4. Use leaves for mulch (mulch is used for ground cover)
 5. Put yard trimmings in the garbage
 6. Put yard trimmings in Parks and other wild areas to compost
- DK / REF

10b. What other methods do you use to dispose of your food waste? READ

1. Put food waste in garbage?
 2. Put food waste in garburators?
- Any other? (SPECIFY) _____
- DK / REF

GRASSCYCLING SECTION

Next, we have some questions about lawn care ...

11. Do you or others in your household mow the lawn, or do you use a grass cutting service?

1. MOW LAWN OURSELVES
2. USE LANDSCAPER/GRASS CUTTING SERVICE
3. NO GRASS TO MOW
4. DK/REF

IF USES GRASS CUTTING SERVICE, ASK 11a THEN GO TO Q20 (MEDIA SECTION)

a. Does your grass cutting service do grasscycling ... that is, leaving the clippings on the lawn rather than blowing or raking and removing?

1. YES, GRASSCYCLES (LEAVES CLIPPINGS)
 2. NO, REMOVES CLIPPINGS
- DK/REF

b. Deleted

Questionnaire FINAL: May 18, 2007

IF MOWS OWN LAWN, ASK:

12. a) Do you ever grasscycle when you mow the lawn... that is, leaving the clippings on the lawn rather than blowing or raking and removing? If NO → GO to question 16.

1. YES
2. NO GO to question 16.
- DK/REF

12b) How much do you grasscycle? Would you say:

1. Most of the time (not really practical to grasscycle all the time). Go to question 13.
2. Some of the time. Go to question 15.
3. Seldom Go to question 15.
- DK / REF

13. **FOR THOSE THAT ARE GRASSCYCLING MOST OF THE TIME: What got you involved in grasscycling? DO NOT READ**

1. CITY ADVERTISING ABOUT IT.
2. JUST GOOD LAWN CARE PRACTICE.
3. WANT TO REDUCE WASTE.
4. IT'S PART OF MY ROUTINE.
5. IT'S EASIER
- DK / REF

14. **FOR THOSE THAT ARE GRASSCYCLING MOST OF THE TIME: Why have you kept doing it? DO NOT READ. THEN Go to question 19.**

1. CITY ADVERTISING ABOUT IT.
2. JUST GOOD LAWN CARE PRACTICE.
3. WANT TO REDUCE WASTE.
4. IT'S PART OF MY ROUTINE.
5. IT'S EASY.
6. IT SAVES TIME.
- DK / REF

15. **FOR THOSE THAT ARE GRASSCYCLING ONLY SOME OF THE TIME OR SELDOM: Why don't you do it more often? THEN Go to question 17.**

1. CLIPPINGS TRACK INTO THE HOUSE
2. LAWN GROWS TOO MUCH AND THE CLIPPINGS ARE TOO LONG
3. DON'T KNOW ENOUGH ABOUT HOW TO DO IT TO MAKE IT WORK
4. CONCERN ABOUT CREATING THATCH IN THE LAWN
5. YARD TRIMMINGS COLLECTION IS CONVENIENT
6. NOT THAT INTERESTED IN THE YARD OR YARD WORK
7. DK / REF

Questionnaire FINAL: May 18, 2007

16. FOR THOSE THAT DON'T GRASSCYCLE AT ALL: Why don't you grasscycle, that is leave the clippings on the yard? THEN Go to question 17.

1. DON'T KNOW ANYTHING ABOUT IT.
2. CLIPPINGS ON THE LAWN WILL LOOK BAD.
3. CLIPPINGS WILL TRACK INTO THE HOUSE.
4. CONCERN ABOUT CREATING THATCH IN THE LAWN.
5. HAVE TO MOW HIGHER AND MORE OFTEN, SO MEANS MORE WORK.
6. YARD TRIMMINGS COLLECTION IS CONVENIENT.
7. NOT THAT INTERESTED IN THE YARD AND YARD WORK.
8. USE LANDSCAPING SERVICE OR OTHERS TAKE CARE OF THE YARD.
9. DON'T THINK IT WOULD HELP MUCH (CYNICISM).

17. FOR THOSE THAT ARE GRASSCYCLING SOME OF THE TIME, SELDOM OR NEVER: Which, if any, of the following would encourage you to increase or start grasscycling?

1. Neighbourhood sales of reduced price electric mulching mowers designed to grasscycle with your old mower taken back for recycling.
2. Having better information easily available on what it's all about and how to do it successfully
3. Other people in the house might be interested
4. If lawn would still look nice
5. **DO NOT READ: JUST NOT INTERESTED AND NEVER WILL BE.**

18. Next, please rate each of the following statements on how much it motivates you to do grasscycling? Please use a scale from 1 to 5 where 5 means "motivates you a lot", 3 means neutral and 1 means "not at all motivating" RANDOMIZE LIST

1. Grasscycling means lower collection fees because the City's yard trimmings collection program would cost less.
2. Grasscycling is good for the environment since it reduces waste.
3. Grasscycling provides natural fertilizer for the lawn, which is good environmentally and saves you money.
4. Grasscycling cuts down on watering, which is good for the environment.
5. It's simple and easy and saves time because there is no raking or bagging.
6. Grasscycling will not create thatch. [IF ASKED: Thatch is a layer of organic matter that can develop between the grass and the soil surface. Excessive thatch creates an unfavorable growing environment for grass roots.]

19. How often do you have your mower blades sharpened?

1. Several times during the season
2. Once a year
3. Every few years
4. Never done yet
5. DON'T KNOW/USE A GRASS CUTTING SERVICE

MEDIA & COMMUNICATIONS SECTION

20. Do you have internet access at home?

1. YES
2. NO
- DK/REF

21. Which of these newspapers do you read at least once a month?

1. Vancouver Courier
2. Georgia Straight
3. Sing Tao
4. Ming Pao
5. The Link
6. The Voice
7. None

22. Do you use any of the following radio and television stations on a regular basis? This question is probably for Chinese and East Indian people only, although Channel M TV is watched by others too.

1. Fairchild TV (Chinese)
2. Channel M TV (22 languages)
3. Shaw Multicultural TV
4. Fairchild Radio FM 96.1 (Chinese)
5. Radio AM CHMB (Chinese)
6. Radio FM 93.1 (Hindi and Punjabi)
7. Radio India AM 1600 (Punjabi, Hindi, Urdu and English)

23. Are you aware that the Greater Vancouver region operates a "composting hotline" to answer questions? (IF WANTS TO KNOW THE #: 604-736-2250)

1. YES
2. NO

24. Do you remember getting a natural yard care booklet called "Grow Natural" from the City a few years ago?

1. YES
 - a. Did you keep it? YES/NO
 - b. Would you say it was: very useful, somewhat useful, not very useful, not at all useful?
DON'T RECALL
2. NO

25. Are you aware that the City has a website which contains basic information about composting at grownatural.ca?

1. YES
2. NO

26. Are you interested in receiving information from the City about backyard composting and grasscycling?

1. YES
2. NO, NOT INTERESTED IN information on these topics. (GO TO Q27)

26b) IF YES, ASK: Which of the following ways do you prefer to get such information READ (MULTIPLE ANSWERS OK)

1. Small local newspapers.
2. Brochure or card mailed to your home.
3. As part of the City's recycling newsletters (sent out about once every 2 years).
4. Staffed displays at public events (e.g. the Folk Festival).
5. Live demonstrations on television or Internet

27. ASK EVERYONE: Another option under consideration is to offer home visits by expert advisors on these topics. Would you prefer and be willing to pay \$25.00 to get a home visit by an expert advisor to help you with the whole topic of natural yard care, including composting, grasscycling, water conservation and the elimination of pesticides? The \$25.00 is a subsidized rate. How likely would you be to purchase this service? READ SCALE:

1. Definitely would,
 2. Probably would,
 3. Might or might not,
 4. Probably not or
 5. Definitely not?
- DK/REF

28. IF NOT INTERESTED IN RECEIVING INFO IN Q26, SKIP TO DEMOS. OTHERWISE, ASK: When receiving further information on backyard composting from the City, would you prefer:

1. the topic of backyard composting on it's own; or
2. integrating backyard composting with other information on natural yard care which includes composting, grasscycling, water conservation and elimination of pesticides?

29. Would you be interested in participating in any future composting studies for the City, such as follow-up surveys or focus groups?

1. YES
2. NO

DEMOGRAPHICS

As we near the end of our interview, we have a few more questions just to help us make sure our sample includes all types of residents. (IF NEEDED: Please be assured that all information is strictly confidential.)

D1. Do you rent or own your current place of residence?

1. Rent
2. Own
3. **DNR** OTHER (e.g., live with parents/ rent free but not an owner)

D2. Does your household have any personal vehicles, such as a car, van or truck? Please exclude motorcycles or scooters.

1. YES
2. NO

D3. Into which of the following age categories may I place you?

3. 18 to 24 years
4. 25 to 34 years
5. 35 to 44 years
6. 45 to 54 years
7. 55 to 64 years
8. 65 or over

D4. While we all live in Canada, our ancestors come from many different ethnic backgrounds. What is the main ethnic background of your ancestors? (PROBE: ACCEPT UP TO TWO RESPONSES) DO NOT READ

1. African
 2. American
 3. Asian – Other (e.g., Indonesia, Malaysia, Thailand)
 4. Australia
 5. British (English/Scottish/Welsh/Irish)
 6. Canadian
 7. Chinese
 8. Dutch
 9. East Indian (Punjabi, India, Tamil, Guyana, Pakistani, or other)
 10. East European (Ukrainian, Polish, Hungarian, Serb, or other)
 11. French
 12. German
 13. Greek
 14. Italian
 15. Japanese
 16. Korean
 17. Latin American (Guatemala, Nicaragua, Mexican, or other)
 18. Native Indian (Aboriginal or name of Band)
 19. Filipino
 20. South American (Brazilian, Peruvian, Columbian, Ecuador, or other)
 21. Spanish
 22. Vietnamese
 - 96 Other (specify) _____
- REFUSED

Questionnaire FINAL: May 18, 2007

D5. What languages are typically spoken in your home?

1. English
 2. Chinese
 3. Mandarin
 4. Cantonese
 5. Other Chinese
 6. Punjabi
 7. Other _____
- REFUSED

D6. Including yourself, how many people live in your household? # _____

D7. What is the highest level of education that you have completed?

READ LIST IF NECESSARY

1. Grade school or some high school
2. Completed high school
3. Technical school/college
4. Some university
5. Completed university
6. Post-graduate degree

D8. And, finally, which of the following categories best describes your annual household per year before taxes?

Under \$50,000, **PROBE:** Is that:

1. Less than \$30,000, or
2. \$30,000 less than \$50,000?
3. REFUSED

or \$50,000 and over? **PROBE:** Is that:

4. Under \$70,000
5. \$70,000 to less than \$100,000, or
6. \$100,000 and over?
7. REFUSED

9. DON'T KNOW/ REFUSED

D10. LANGUAGE OF INTERVIEW (IF OTHER THAN ENGLISH)

1. Cantonese
2. Mandarin
3. Punjabi

Thank you very much for your participation!

Composting Market Estimates

Existing Composting Estimates	Source	%	# DUs	Comment/ Explanation
Ground-oriented Dwelling Units (DU)	2006 Census; COV website		103,705	
Households currently with outdoor composters	2007 Survey Q1	51%	52,890	Survey Q1 = 50.5% of total DU surveyed Note: some DUs may share composters.
Estimate of existing composter use weighted by frequency of use	2007 Survey Q3	78%	41,254	Assumed rate of use ascribed to each use-frequency category in survey: (Always 56.9% x 100% use) + (Most of time 17.8% hh x 90% use) + (Some of time 10.4% x 50% use) = 78.1%
SIDE NOTE: Composters purchased from City	2007 Survey Q2	65%	34,378	Note: Actual City sales to October 2007 = 38,660 composters. Note, some of these City sales may be replacement purchases.
SIDE NOTE: Estimated # of existing composters in use	2007 Survey Q3	85%	44,956	% of households with a composter who use it = all the time (56.9%) + most of the time (17.8%) + some of the time (10.4%).
SIDE NOTE: Rate of existing composter use		40%		Composting rate = Composting Use estimate D4 divided by Total Dus
Potential for Future Composter Sales	Source	%	# DUs	Comment/ Explanation
Ground-oriented Dwelling Units (DU)	2006 Census; COV website		103,705	
Currently with NO composter	2007 Survey Q1	49%	50,815	Q1 = 49% among total DUs surveyed
Estimated receptivity to future composting promotions (interest in information/ programs):	2007 Survey Q26-27			Based on total without composter
Low/ no interest	Q26	50%	25,306	Not interested in receiving info from City and not interested in expert service = 49.8%
*Medium level interest	Q26	38%	19,361	Interested in info from City but not interested in expert service = 38.1%
*High level interest	Q27	12%	6,149	Definitely or probably would pay \$25 for expert service = 12.1%
*Total DUs without composters & receptive to composting-grasscycling promotion			25,509	
Estimated likelihood to acquire composter	2007 Survey Q26-27			Based on typical market research likelihood formula (down-weighting interest or intent)
Low/ no likelihood	Q26	0%	0	# low/no interest x 0%
Medium likelihood	Q26	25%	4,840	# medium level interest x 25%
Highest likelihood	Q27	50%	3,074	# high level interest x 50%
Estimated total new composters to be purchased anywhere or home-made			7,915	
Estimated future City's sales of composters	2007 Survey Q2	65%	5,144	Rate of purchase from City (Survey Q2) = 65% of total households with composters
% of total ground-oriented DUs			5.0%	
Potential for Future Composter Sales to CHINESE-speaking DUs	Source	%	# DUs	Comment/ Explanation
Ground-oriented Dwelling Units (DU)	2006 Census; COV website		103,705	
Chinese-speaking DUs	2007 Survey Ques. D5	18%	18,563	Q. D5: Languages typically spoken at home
Chinese-speaking DUs with NO composter	2007 Survey Q1	61%	11,286	Chinese speaking hhlds without backyard composter Q1 = 60.8%
Estimated receptivity to composting	2007 Survey Q26-27			Based on total Chinese-speaking hhlds without composter
Low/ no interest	Derived from Q26-27	39%	4,379	Not interested in receiving info from City <u>and</u> not interested in expert service = 38.8%
*Medium level interest	Derived from Q26-27	50%	5,677	Interested in info from City but not interested in expert service = 50.3%
*High level interest	Q26	11%	1,219	Definitely or probably would pay \$25 for expert service = 10.8%
*Total Chinese-speaking DU receptive to composting-grasscycling promotion			6,896	Total receptive to a City promotion
Estimated likelihood to acquire	2007 Survey			Based on typical market research likelihood formula (down-weighting interest or intent)
Low/ no likelihood	Q26	0%	0	# low/no interest x 0%
Medium likelihood	Q26	25%	1,419	# medium level interest x 25%
Highest likelihood	Q27	50%	609	# high level interest x 50%
Estimated total composters to be purchased anywhere or homemade	2007 Survey	2%	2,029	
Estimated future City composter sales to Chinese-speaking Dus	2007 Survey	63%	1,272	% of sales by City (based on past rate of purchase from City) among Chinese-speaking households with composters
% of total ground-oriented DUs			1.2%	

Grasscycling Market Estimates

Existing Grasscycling	Source	%	# DUs	Comment/ Explanation
Ground-oriented Dwelling Units (DU)	2006 Census; COV website		103,705	
Mow own lawns	2007 Survey Q11	69%	71,453	Q11 mow own = 68.9%
Use grass cutting service	2007 Survey Q11	26%	26,445	Q11 use service = 25.5%
No lawn to mow	2007 Survey Q11	6%	5,807	Q11 no grass to mow = 4.0% + 1.6% DK
Currently grasscycling use	2007 Survey Q12a	53%	38,105	Assumed rate of use ascribed to each use-frequency category: : (Most of time 73.4% x 90% use) + (Some of time 21.7% x 50% use) + (Seldom or DK4.9% x 10% use) = 77.4% x 68.9% mow =53.3%
Cutting service grasscycles	2007 Survey Q11a	20%	5,315	Q11a =20.1%
SIDE NOTE: Existing grasscycling rate		42%		Grasscycling rate = Current Grasscycling Use estimate (line 6+line 7) divided by Total DUs (line 2)
Potential for Future Grasscycling Promotion	Source	%	# DUs	Comment/ Explanation
Ground-oriented Dwelling Units (DU)	2006 Census; COV website & 2007 Survey		103,705	
Ground-oriented Dwelling Units (DU) that mow own lawn	2007 Survey Q11	69%	71,453	
Currently do not grasscycle	2007 Survey Q12a	32%	23,151	Q12a Never grasscycle = 32.4% of those who mow own lawn
Estimated receptivity to grasscycling	2007 Survey			Based on total do not grasscycle
Low/ no interest	Q26	37%	8,519	Not interested in receiving info from City and not interested in expert service = 36.8%
*Medium level interest	Q26	45%	10,325	Interested in info from City but not interested in expert service = 44.6%
*High level interest	Q27	19%	4,283	Definitely or probably would pay \$25 for expert service = 18.5%
*Total non-grasscycling DUs receptive to grasscycling-composting promotion			14,608	
Estimated likelihood to take up grasscycling	2007 Survey			Based on typical market research likelihood of up-take formula
Low/ no interest	Q26 (Interest in receiving info from City)	0%	0	Not very/not at all likely x 0%
Medium level interest	Q26 (Interest in receiving info from City)	25%	2,581	Somewhat likely x 25%
High level interest	Q27 (Expert service)	50%	2,141	Very likely x 50%
Estimated total increase in households practising grasscycling**	2007 Survey	4.6%	4,723	Estimated #DU likely to practise grasscycling: % of total DU's and # of DU's
SIDE NOTE: Overall predicted rate of grasscycling (current + new users)		46%		
Potential for Future Grasscycling among CHINESE-speaking DUs	Source	%	# DUs	Comment/ Explanation
Ground-oriented Dwelling Units (DU)	2006 Census; COV website		103,705	
Chinese-speaking DUs	2007 Survey	18%	18,459	Q. D5 (Languages typically spoken at home)
Chinese-speaking DUsthat mow own lawn	2007 Survey Q11	69%	12,719	Q11 mow own lawn = 68.9% (same % as for total Dus)
Chinese-speaking who do NOT grasscycle	2007 Survey Q12a	49%	6,270	Chinese speaking hhlds who never grasscycle Q12a = 49.3% (among those who mow own lawn)
Estimated receptivity to grasscycling	2007 Survey Q26, Q27			Based on total Chinese speaking households that do NOT grasscycle
Low/ no interest	Q26 (Interest in receiving info from City)	30%	1,850	Not interested in receiving info from City <u>and</u> not interested in expert service = 29.5%
*Medium level interest	Q26 (Interest in receiving info from City)	48%	3,029	Interested in info from City <u>but not</u> interested in expert service = 48.3%
*High level interest	Q27 (Expert service)	22%	1,398	Definitely or probably would pay \$25 for expert service = 22.3%
*Total Chinese-speaking DU receptive to grasscycling-composting promotion			4,427	Total receptive to a combined City promotion
SIDE NOTE: Cantonese	2007 Survey	13%	3,134	Note: multiple mentions-does not add to 100%
SIDE NOTE: Mandarin	2007 Survey	6%	1,542	Multiple mentions-does not add to 100%
SIDE NOTE: Other Chinese dialect	2008 Survey	1%	199	Multiple mentions-does not add to 100%
Estimated likelihood to adopt practise	2007 Survey			Based on typical market research purchase likelihood formula
Low/ no interest	Q26	0%	0	# low/no interest x 0%
Medium level interest	Q26	25%	757	# medium level interest x 25%
High level interest	Q27	50%	699	# high level interest x 50%
Estimated total Chinese speaking households likely to adopt grasscycling	2007 Survey	1.4%	1,456	Likelihood to adopt grasscycling practise: % of total DU's and # of DU's