



Healthy Soil Survey 2003



Final Survey Results

Phone Survey Fielded

April – June 2003



Prepared for

King County

Seattle Public Utilities

City of Bellevue



with **PRR** and **MarketTrends**



Healthy Soil Survey 2003



Final Survey Results

The following **Healthy Soil Survey** materials are included in this package, separated by colored sheets. Summary survey results for the City of Seattle and the Bellevue area are available separately.

1. **Key Findings Summary Memo – King County Results (excluding Seattle)**

2. **Key Findings Summary Memo – Overall King County Results (including Seattle)**

3. **Final Phone Survey Instrument & Topline Report – Includes survey results for these four areas:**
 - Overall King County
 - King County excluding Seattle
 - City of Seattle
 - Bellevue Area

1.

Key Findings Summary Memo

**King County Results
(excluding Seattle)**

December 2003



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To: Sharon Aller, King County Solid Waste Division
Patricia Burgess, City of Bellevue Utilities Department
Carl Woestwin, Seattle Public Utilities

From: Christy Shelton and Amity Lumper

Date: December 3, 2003

Subject: **Key Findings from 2003 *Healthy Soil Survey* – King County Results (without Seattle)**

This memo summarizes key results from the **2003 *Healthy Soil Survey*** of King County residents. Cascadia Consulting Group and PRR worked with staff from the King County Solid Waste Division, Seattle Public Utilities, and the City of Bellevue's Utilities Department to design the survey questionnaire and analyze the results. This summary presents results for **King County residents outside of Seattle**.

Survey Objectives

- **Establish a baseline** of current attitudes and behaviors to track changes over time.
- Determine the extent to which residents receive and respond to **natural yard care messages**.
- Inform **future natural yard care promotional efforts**, including the development of incentives and educational programs.

Key Findings

According to the survey of 592 residents of single-family homes with yards in King County outside Seattle:

- **Bark/wood chips, weed killers/Weed-n-Feed, and compost are the most commonly used materials**, with more than half of respondents using each product.
- **Use of compost, drought-tolerant plants, and organic fertilizer is increasing overall**, while residents report a net decrease in use of water, weed killers/Weed-n-Feed, chemical fertilizers, and bug killers.
- **Nurseries and garden stores are the most popular place to buy plants**, while most respondents buy other lawn and garden supplies at large hardware stores.
- **More than three-quarters of residents say they pull weeds by hand**, and about 30% each apply weed killer, pesticide/insecticide, or other chemical treatments.
- **Most residents believe their soil is healthy** and correctly identify basic characteristics of healthy soil.
- **More than half of respondents are aware of local government programs related to yard care**, and 30% of those have used the programs.

SURVEY RESULTS OUTLINE

1. **Survey Overview** (page 2)
Objectives & methods
2. **Lawn & Garden Material Use** (2)
What is used, how often & sources
3. **Weed, Pest & Disease Control** (4)
Common methods of management
4. **Yard Care Awareness** (5)
Soil health, information & programs
5. **Profile of Respondents** (7)
Demographics & perceptions

1. Survey Overview

To explore behaviors and attitudes related to yard care, soil building, and composting, King County and the cities of Seattle and Bellevue commissioned a telephone survey of households located within their jurisdictions. Cascadia and PRR worked with the three governments to design the survey, and Market Trends, a market research firm in Bellevue, fielded the phone survey from April 28 through June 29, 2003.

A total of 892 Computer-assisted Telephone Interviews (CATI) were completed with residents of King County. Of this total, 300 residents were interviewed each in the cities of Seattle and Bellevue, and 292 additional King County residents were also interviewed outside of those cities. The Bellevue sample also included the neighboring communities of Beaux Arts, Clyde Hill, Hunts Point, Medina, and Yarrow Point. Survey Sampling, Inc. provided a random-digit sample of telephone numbers for the survey.¹ Phone numbers were drawn randomly throughout King County, Seattle, and the Bellevue area.

The margin of error for the overall results is approximately $\pm 3\%$ at a 95% confidence level; the margin of error for King County excluding Seattle is approximately $\pm 5\%$.²

The following criteria were used for selecting survey participants:

- Adults 18 years of age or older who reside in King County;
- Residency in a single-family home with a yard; and,
- Primary or shared responsibility for lawn and garden care at the home.

Key findings by major topic are covered in the following sections. This memo provides weighted results for King County excluding Seattle; results for Seattle, Bellevue, and overall King County including Seattle are presented separately.

2. Lawn & Garden Material Use

The *Healthy Soil Survey* contained a series of questions related to the types of yard care materials that residents use. The sections below cover how many respondents use each material, frequency of use, and a brief profile of typical users based on crosstabulation of the survey results. For compost, residents also reported how they use the material in their yard and its source.

Residents show a mix of both beneficial and harmful behaviors, such as common use of compost as well as weed killers. The three most commonly used materials reported by respondents were **bark or wood chips** (67%), **weed killers or Weed-n-Feed products** (61%), and **compost** (55%), discussed below.³ The section also covers grasscycling, changes over time in use of other yard care materials, and sources of plants and other yard supplies.

Bark & Wood Chip Use

According to the survey, **67% of residents use bark or wood chips.**

- **Frequency.** Of bark/wood chip users (67% overall), **about half (52%) apply bark/wood chips to their garden beds less than once a year.**
- **Who.** Bark or wood chip use is more common among **suburban residents, those with children or pets, and newer residents** than other groups.

¹ During the winter of 2002-2003, the King County Solid Waste Division conducted a separate telephone survey of county residents outside of the City of Seattle. Survey Sampling's list from that survey was compared to the list for the *Healthy Soil Survey*, and any duplicate phone numbers were removed to ensure no resident was contacted for both surveys.

² The survey was designed to provide representative and statistically significant samples for Bellevue, Seattle, and King County excluding Seattle. These results were compiled and weighted in proportion to the single-family household population to provide overall results for King County and for King County excluding Seattle.

³ Multiple responses were allowed to this survey question. Many questions on the survey allowed multiple responses, so results may not sum to 100%.

Weed Killer & Weed-n-Feed Use



A total of **61% of all respondents use weed killers or Weed-n-Feed products**. Some residents appear to consider Weed-n-Feed primarily as a fertilizer, as only 38% said they used weed killer when asked how they manage weeds. Section 3 of this memo addresses common methods for weed control.

When asked how their weed killer/Weed-n-Feed use had changed in recent years, **27% said they had decreased their use**, while 6% reported an increase. An additional 23% had never used the products, and 44% said their usage remained about the same. Table 2-1 shows these results.

- **Frequency.** Of those who use weed killer/Weed-n-Feed (61% overall), **45% apply these products once a year**, and 32% use them 2 to 3 times a year.
- **Who.** Above average numbers of **suburban residents** and those with **lower yard care interest** levels reported using weed killer or Weed-n-Feed products.

Compost Use



A total of **55% of all respondents use compost**. In recent years, nearly one-third each reported either increasing or maintaining their compost use; 32% said they had never using compost (see Table 2-1).

- **Frequency.** Of compost users (55% of respondents), **most apply it to their garden beds 1 to 3 times per year** (84%), with more than half applying it once a year (56%).
- **Who.** Compost use is above average among **more educated** residents, those who **“love” or “enjoy” gardening**, and respondents reporting **decreased use of weed killers/Weed-n-Feed**.
- **Application.** Of compost users (55% overall), **most mix it into their garden** (74%), apply it as mulch to topdress their garden (62%), or add it to planting holes for new trees or shrubs (62%).
- **Source.** Of compost users (55% overall), **more respondents make compost at home (66%) than purchase it** (57%); these figures include 24% who both make compost and buy it.
 - *Bagged or Bulk.* Among those who purchase compost, **more buy bagged compost** than bulk.
 - *Yard Waste or Food Waste.* Of those who make compost, **most make compost from yard waste** alone, but nearly as many compost yard waste and food waste; few use food waste alone.

Grasscycling

When those with lawns (97% of respondents) were asked how they handle their grass clippings, **the largest group (42%) said they leave grass clippings on the lawn**. Additionally, 33% recycle yard waste through curbside collection programs, and 24% compost yard waste at home.

- **Who.** Grasscycling is more common among residents living on **rural** lots, those with **pets**, residents who **“enjoy” gardening**, and those who have **decreased their use of weed killers/Weed-n-Feed**.

Other Material Use

The survey also asked residents about changes in their use of organic and chemical fertilizers, bug killers, water, and drought-tolerant plants in the last few years. Table 2-1 shows the results and overall trends, with desired behaviors highlighted.



▪ **Increasing** use trend: **compost, drought-tolerant plants, and organic fertilizers**.



▪ **Decreasing** use trend: **water, weed killers/Weed-n-Feed, chemical fertilizers, and bug killers**.

Table 2-1. Reported Changes in Yard Care Practices in Recent Years

Use in last few years	Trend	(Percent of All Respondents)			
		Increased	Same	Decreased	Never Used
Compost	↑	29%	32%	7%	32%
Drought-tolerant plants	↑	27%	41%	2%	29%
Organic fertilizers	↑	22%	31%	6%	41%
Water	↓	10%	54%	31%	5%
Weed killers or Weed-n-Feed products	↓	6%	44%	27%	23%
Chemical fertilizers	↓	5%	37%	26%	32%
Bug killers	↓	4%	33%	27%	36%

Sources of Plants & Yard Supplies

The survey asked respondents where they typically shop for plants, tools, and other yard care supplies. As shown in the box at right, **most residents buy plants and yard supplies at large hardware stores and nurseries/garden stores.**

Yard Care Product Sources

Plants
 Nurseries/garden stores 62%
 Large hardware stores 48%

Lawn & Garden Supplies
 Large hardware stores 75%

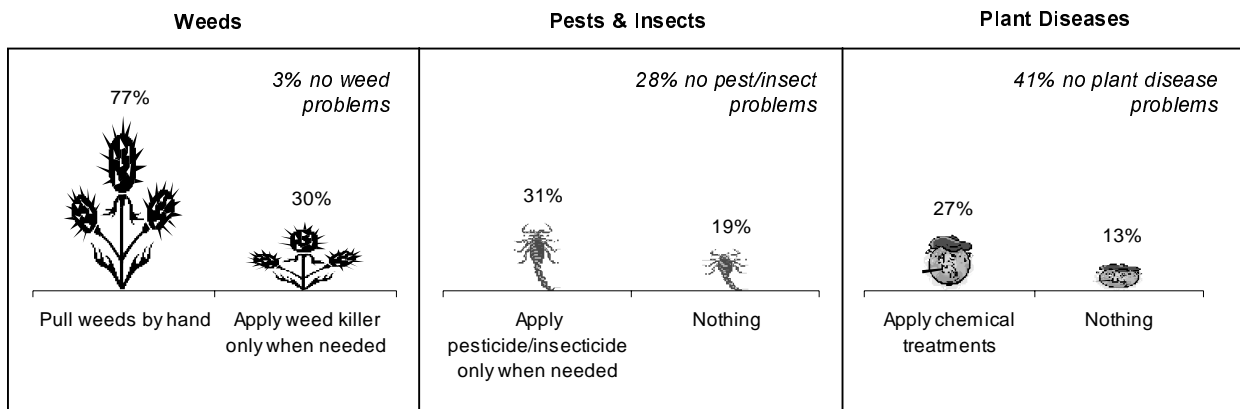


3. Weed, Pest & Disease Control

Figure 3-1 highlights the top two reported methods each for managing weeds, pests, and plant diseases.

- Of all residents, **77% pull weeds by hand** to control them.
- For pest and insect problems, **31% apply pesticide or insecticide only when needed**, and 19% do nothing about pests and insects.
- About **27% apply chemical treatments for plant diseases**, while 13% do nothing about disease.
- In addition, 28% reported no pest/insect problems, and 41% reported no plant diseases, while only 3% reported no weed problems.

Figure 3-1. Top Two Reported Methods for Managing Weeds, Pests/Insects & Plant Diseases



4. Yard Care Awareness & Information Sources

This first part of this section covers soil health awareness, including whether residents believe their soil is healthy or unhealthy and the reasons why. It also discusses awareness of key messages regarding soil health. The last part of the section summarizes what sources residents use to obtain information about lawn and garden care as well as whether they are aware of and have participated in government-sponsored programs regarding lawn and garden care.

Soil Health Awareness

As part of the *Healthy Soil Survey*, respondents were asked about the health of the soil in their yards. These questions were intended to assess the extent to which county residents are receiving major messages about soil health. Local governments, including King County and the cities of Seattle and Bellevue, developed these educational messages.

Most residents (77%) believe their soil is healthy. Respondents generally associate healthy soil with healthy plants, physical properties of the soil itself (e.g., color), and the presence of beneficial organisms. See Table 4-1 for common responses to the question, “How do you know your soil is healthy?”

Table 4-1. Healthy Soil – Top Reported Reasons

Reason	Percent
Plants are healthy	79%
Color of soil	17%
Soil contains worms or other beneficial organisms	10%
Compost or other soil amendments were added	8%
Soil drains well	8%
Based on examination	8%

For the 23% of respondents who reported that their soil was unhealthy, Table 4-2 shows the most common reasons provided for why they considered their soil unhealthy.

Table 4-2. Unhealthy Soil – Top Reported Reasons

Reason	Percent
Water runs off or soil is compacted	47%
Plants are unhealthy	41%
Based on examination	13%
Soil is rocky, sandy, or both	9%
Lawn has moss, weeds, and/or clover	8%
Color of soil	7%

Residents appear generally aware of key messages regarding soil health, though this understanding does not always translate into behavior. Five statements incorporating key messages about healthy soil were read in random order to all respondents as part of the survey. They were asked whether they agreed or disagreed with each statement. Desired responses to each statement are highlighted in the “agree” and “disagree” columns in Table 4-3. The majority of respondents provided the desired answers.

Table 4-3. Respondents’ Agreement with Healthy Soil Statements

Statement	Agree	Disagree
Healthy soil soaks up excess rainwater and slows runoff.	96%	4%
A high level of watering is essential to maintaining healthy plant growth.	17%	83%
Compost enriches soil and improves plant growth.	99%	1%
Healthy soil is free of worms and bugs.	8%	92%
Healthy soil protects plants from pest and disease problems.	88%	12%

Information Sources & Program Awareness

The survey asked residents where they obtain information on lawn and garden care for the local area. **The largest group (37%) of respondents reported that they typically use gardening books, catalogs, or magazines.** About one-quarter (25%) uses the internet for gardening information.

The survey also asked whether residents are aware of the information and programs on lawn and garden care that King County, the cities of Seattle and Bellevue, and the Saving Water Partnership offer. **Over half (53%) of residents are aware that local governments provide lawn and garden care programs and information, and 30% of those reported using the programs.**


In an unaided question, the top efforts that those who participated in the programs reported using are:

- General composting assistance (17%);
- Water conservation or watering guidelines (14%);
- Master Gardeners (12%); and
- Information on organic or non-toxic products (10%).

Commonly Used Programs

Among those who report using government-sponsored programs related to lawn & garden care


17% General composting assistance



14% Water conservation or watering guidelines

12% Master Gardeners

10% Organic or non-toxic product information



5. Profile of Respondents

This section presents demographics and other information – such as yard characteristics, yard care involvement, and perceptions – for the residents that participated in the 2003 *Healthy Soil Survey*.

Survey Demographics

Table 5-1 summarizes the demographic information that the 892 survey respondents provided.

Table 5-1. Demographic Characteristics of Survey Population

Characteristic	Statistics
Age	51% between 35 and 54 years of age ⁴
Gender	49% female and 51% male
Ethnicity	94% Caucasian; 0%-1% each of other ethnic backgrounds ⁵
Education level	50% have four-year college or graduate degrees
Children	43% have children in the household (22% for under age 10; 28% for ages 10-18)
Pets	64% have pets in the household
Residency	65% live in cities or towns (including 10% in the Bellevue area, and 55% in other King County cities); 35% live in unincorporated areas ⁶ 91% homeowners; 9% renters 52% lived at current residence for 10 years or less; 48% more than 10 years

Yard Characteristics

Respondents were also asked to describe characteristics of their yard. Among those surveyed, 43% reported that a grass lawn covers half or less than half of their yard. Tree and shrub areas (90%) along with flower gardens (79%) are reportedly common among residents, while vegetable gardens are less common (36%).

Yard Care Involvement

When asked about their level of interest in yard care, most residents (60%) reported a moderate to high level of interest. About one-third reported doing just enough to maintain the status quo.

Slightly less than half (47%) of those with both lawns and gardens reported spending more time caring for garden areas than their lawn, while about one-third (33%) spend more time on their lawn.

⁴ Quota maximums were set for the 55 to 64 and the 65 and over age groups.

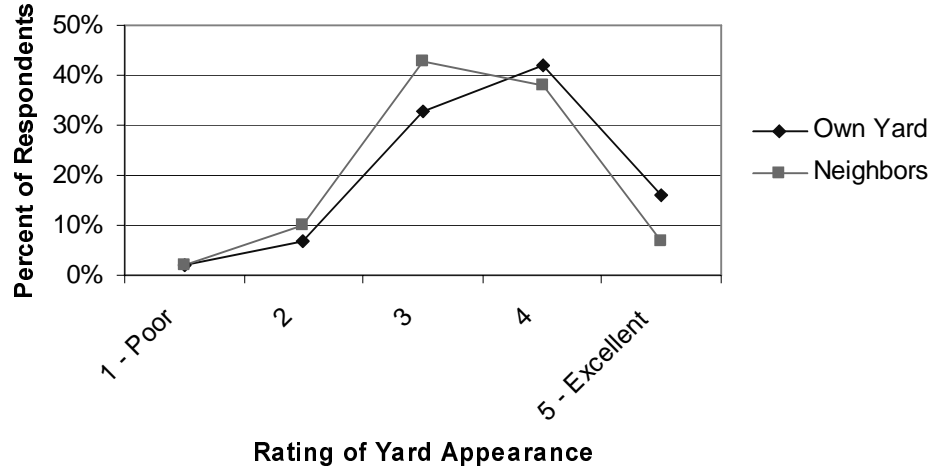
⁵ Other ethnic backgrounds included Hispanic/Latino, Black/African-American, Native American/American Indian, Chinese-American, Japanese-American, Other Asian/Pacific Islander, and other mixed racial heritage.

⁶ Like all results presented in this summary, these figures are weighted according to their portion of King County's population of single-family households. Seattle, Bellevue, and other King County areas each represented about one-third of those surveyed.

Yard Perceptions

Figure 5-2 highlights respondents' reported perception of their own yard as well as other yards in their neighborhood. Residents were asked to rank the appearance of each on a scale of 1 to 5, where 1 is poor and 5 is excellent. Respondents generally rated their own yards (average score 3.6) as having a slightly better appearance than other yards in their neighborhood (average score 3.4). For the high scores of 4 and 5, 58% gave those ratings to their own yards, while 45% rated their neighbors' yards accordingly.

Figure 5-2. Appearance of Own Yard and Yards in Neighborhood



2.

Key Findings Summary Memo

Overall King County Results
(including Seattle)

December 2003



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To: Sharon Aller, King County Solid Waste Division
Patricia Burgess, City of Bellevue Utilities Department
Carl Woestwin, Seattle Public Utilities

From: Christy Shelton and Amity Lumper

Date: December 3, 2003

Subject: **Key Findings from 2003 *Healthy Soil Survey*** – Overall King County Results

This memo summarizes key results from the **2003 *Healthy Soil Survey*** of King County residents. Cascadia Consulting Group and PRR worked with staff from the King County Solid Waste Division, Seattle Public Utilities, and the City of Bellevue's Utilities Department to design the survey questionnaire and analyze the results.

Survey Objectives

- **Establish a baseline** of current attitudes and behaviors to track changes over time.
- Determine the extent to which residents receive and respond to **natural yard care messages**.
- Inform **future natural yard care promotional efforts**, including the development of incentives and educational programs.

Key Findings

According to the survey of 892 residents of single-family homes with yards in King County:

- **Bark/wood chips, compost, and weed killers/Weed-n-Feed are the most commonly used materials**, with more than half of respondents using each product.
- **Use of compost, drought-tolerant plants, and organic fertilizer is increasing overall**, while residents report a net decrease in use of water, weed killers/Weed-n-Feed, chemical fertilizers, and bug killers.
- **Nurseries and garden stores are the most popular place to buy plants**, while most respondents buy other lawn and garden supplies at large hardware stores.
- **Nearly four out of five residents say they pull weeds by hand**, and about one-quarter each apply weed killer, pesticide/insecticide, or other chemical treatments.
- **Most residents believe their soil is healthy** and correctly identify basic characteristics of healthy soil.
- **More than half of respondents are aware of local government programs related to yard care**, and one-third of those have used the programs.

SURVEY RESULTS OUTLINE

1. **Survey Overview** (page 2)
Objectives & methods
2. **Lawn & Garden Material Use** (2)
What is used, how often & sources
3. **Weed, Pest & Disease Control** (4)
Common methods of management
4. **Yard Care Awareness** (5)
Soil health, information & programs
5. **Profile of Respondents** (7)
Demographics & perceptions

1. Survey Overview

To explore behaviors and attitudes related to yard care, soil building, and composting, King County and the cities of Seattle and Bellevue commissioned a telephone survey of households located within their jurisdictions. Cascadia and PRR worked with the three governments to design the survey, and Market Trends, a market research firm in Bellevue, fielded the phone survey from April 28 through June 29, 2003.

A total of 892 Computer-assisted Telephone Interviews (CATI) were completed with residents of King County. Of this total, 300 residents were interviewed each in the cities of Seattle and Bellevue, and 292 additional King County residents were also interviewed outside of those cities. The Bellevue sample also included the neighboring communities of Beaux Arts, Clyde Hill, Hunts Point, Medina, and Yarrow Point. Survey Sampling, Inc. provided a random-digit sample of telephone numbers for the survey.¹ Phone numbers were drawn randomly throughout King County, Seattle, and the Bellevue area.

The margin of error for the overall results is approximately $\pm 3\%$ at a 95% confidence level; the margins of error for individual cities and other subpopulations are higher.²

The following criteria were used for selecting survey participants:

- Adults 18 years of age or older who reside in King County;
- Residency in a single-family home with a yard; and,
- Primary or shared responsibility for lawn and garden care at the home.

Key findings by major topic are covered in the following sections. This memo provides weighted results for King County; results for Seattle, Bellevue, and King County outside Seattle are presented separately.

2. Lawn & Garden Material Use

The *Healthy Soil Survey* contained a series of questions related to the types of yard care materials that residents use. The sections below cover how many respondents use each material, frequency of use, and a brief profile of typical users based on crosstabulation of the survey results. For compost, residents also reported how they use the material in their yard and its source.

Residents show a mix of both beneficial and harmful behaviors, such as common use of compost as well as weed killers. The three most commonly used materials reported by respondents were **bark or wood chips** (61%), **compost** (59%), and **weed killers or Weed-n-Feed products** (52%), discussed below.³ The section also covers grasscycling, changes over time in use of other yard care materials, and sources of plants and other yard supplies.

Bark & Wood Chip Use

According to the survey, **61% of residents use bark or wood chips.**

- **Frequency.** Of bark/wood chip users (61% overall), **about half (49%) apply bark/wood chips to their garden beds less than once a year.**
- **Who.** Bark or wood chip use is more common among **suburban residents** and **those with children or pets** than other groups.

¹ During the winter of 2002-2003, the King County Solid Waste Division conducted a separate telephone survey of county residents outside of the City of Seattle. Survey Sampling's list from that survey was compared to the list for the *Healthy Soil Survey*, and any duplicate phone numbers were removed to ensure no resident was contacted for both surveys.

² The survey was designed to provide representative and statistically significant samples for Bellevue, Seattle, and King County excluding Seattle. These results were compiled and weighted in proportion to the single-family household population to provide overall results for King County.

³ Multiple responses were allowed to this survey question. Many questions on the survey allowed multiple responses, so results may not sum to 100%.

Compost Use



A total of **59% of all respondents use compost**. In recent years, about one-third each reported either increasing or maintaining their compost use; 29% said they had never used compost (see Table 2-1).

- **Frequency.** Of compost users (59% of respondents), **most apply it to their garden beds 1 to 3 times per year** (83%), with more than half applying it once a year (56%).
- **Who.** Compost use is above average among **more educated** residents, those living in **Seattle**, respondents who **“love” or “enjoy” gardening**, and residents reporting **decreased use of weed killers/Weed-n-Feed**.
- **Application.** Of compost users (59% overall), **most mix it into their garden** (72%), apply it as mulch to topdress their garden (61%), or add it to planting holes for new trees or shrubs (59%).
- **Source.** Of compost users (59% overall), **slightly more respondents make compost at home (65%) than purchase it (61%)**; these figures include 26% who both make compost and buy it.
 - *Bagged or Bulk.* Among those who purchase compost, **more buy bagged compost** than bulk.
 - *Yard Waste or Food Waste.* Of those who make compost, **most make compost from yard waste** alone, but nearly as many compost yard waste and food waste; few use food waste alone.

Weed Killer & Weed-n-Feed Use



A total of **52% of all respondents use weed killers or Weed-n-Feed products**. Some residents appear to consider Weed-n-Feed primarily as a fertilizer, as less than a third said they used weed killer when asked how they manage weeds. Section 3 of this memo addresses common methods for weed control.

When asked how their weed killer/Weed-n-Feed use had changed in recent years, **27% said they had decreased their use**, while 6% reported an increase. An additional 30% had never used the products, and 37% said their usage remained about the same. Table 2-1 shows these results.

- **Frequency.** Of those who use weed killer/Weed-n-Feed (52% overall), **44% apply these products once a year**, and 33% use them 2 to 3 times a year.
- **Who.** Above average numbers of **men** and **suburban residents** reported using weed killer or Weed-n-Feed products.

Grasscycling

When those with lawns (96% of respondents) were asked how they handle their grass clippings, **the largest group (42%) said they leave grass clippings on the lawn**. Additionally, 34% recycle yard waste through curbside collection programs, and 22% compost yard waste at home.

- **Who.** Grasscycling is more common among **more educated** residents, those living on **rural** lots, those with **pets**, residents who **“love” or “enjoy” gardening**, those who have **used compost**, and those who have **decreased or never used weed killers/Weed-n-Feed**.

Other Material Use

The survey also asked residents about changes in their use of organic and chemical fertilizers, bug killers, water, and drought-tolerant plants in the last few years. Table 2-1 shows the results and overall trends, with desired behaviors highlighted.



- **Increasing** use trend: **compost, drought-tolerant plants, and organic fertilizers**.



- **Decreasing** use trend: **water, weed killers/Weed-n-Feed, chemical fertilizers, and bug killers**.

Table 2-1. Reported Changes in Yard Care Practices in Recent Years

Use in last few years	Trend	(Percent of All Respondents)			
		Increased	Same	Decreased	Never Used
Compost	↑	32%	33%	6%	29%
Drought-tolerant plants	↑	29%	39%	2%	30%
Organic fertilizers	↑	24%	31%	5%	40%
Water	↓	10%	54%	31%	5%
Weed killers or Weed-n-Feed products	↓	6%	37%	27%	30%
Chemical fertilizers	↓	4%	33%	26%	37%
Bug killers	↓	4%	29%	26%	42%

Sources of Plants & Yard Supplies

The survey asked respondents where they typically shop for plants, tools, and other yard care supplies. As shown in the box at right, **most residents buy plants and yard supplies at large hardware stores and nurseries/garden stores.**

Yard Care Product Sources

Plants
 Nurseries/garden stores 62%
 Large hardware stores 46%

Lawn & Garden Supplies
 Large hardware stores 72%

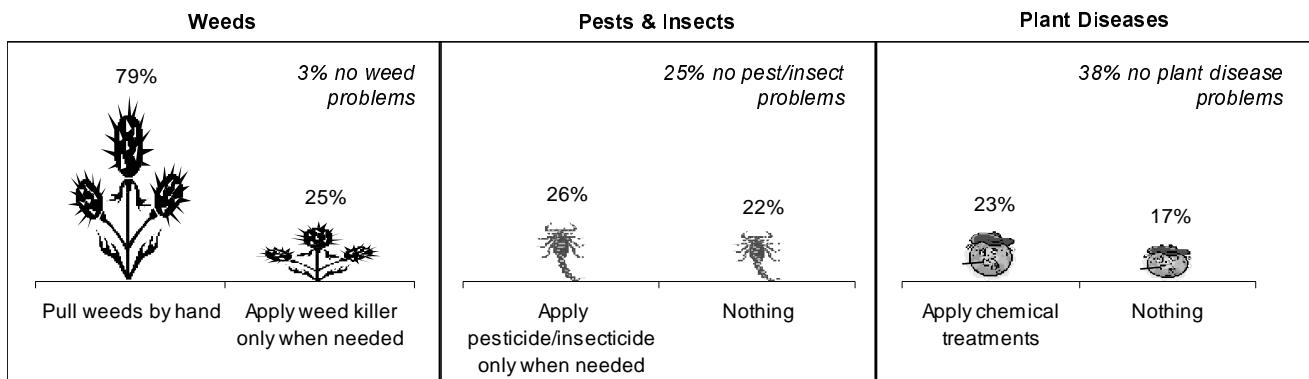


3. Weed, Pest & Disease Control

Figure 3-1 highlights the top two reported methods each for managing weeds, pests, and plant diseases.

- Of all residents, **79% pull weeds by hand** to control them.
- For pest and insect problems, **26% apply pesticide or insecticide only when needed**, and nearly as many do nothing (22%).
- About **23% apply chemical treatments for plant diseases**, while 17% do nothing about disease.
- In addition, 25% reported no pest/insect problems, and 38% reported no plant diseases, while only 3% reported no weed problems.

Figure 3-1. Top Two Reported Methods for Managing Weeds, Pests/Insects & Plant Diseases



4. Yard Care Awareness & Information Sources

This first part of this section covers soil health awareness, including whether residents believe their soil is healthy or unhealthy and the reasons why. It also discusses awareness of key messages regarding soil health. The last part of the section summarizes what sources residents use to obtain information about lawn and garden care as well as whether they are aware of and have participated in government-sponsored programs regarding lawn and garden care.

Soil Health Awareness

As part of the *Healthy Soil Survey*, respondents were asked about the health of the soil in their yards. These questions were intended to assess the extent to which county residents are receiving major messages about soil health. Local governments, including King County and the cities of Seattle and Bellevue, developed these educational messages.

Most residents (79%) believe their soil is healthy. Respondents generally associate healthy soil with healthy plants, physical properties of the soil itself (e.g., color), and the presence of beneficial organisms. See Table 4-1 for common responses to the question, “How do you know your soil is healthy?”

Table 4-1. Healthy Soil – Top Reported Reasons

Reason	Percent
Plants are healthy	79%
Color of soil	17%
Soil contains worms or other beneficial organisms	10%
Compost or other soil amendments were added	9%
Soil drains well	8%
Based on examination	8%

For the 21% of respondents who reported that their soil was unhealthy, Table 4-2 shows the most common reasons provided for why they considered their soil unhealthy.

Table 4-2. Unhealthy Soil – Top Reported Reasons

Reason	Percent
Water runs off or soil is compacted	44%
Plants are unhealthy	40%
Based on examination	12%
Soil is rocky, sandy, or both	10%
Lawn has moss, weeds, and/or clover	7%
Color of soil	7%

Residents appear generally aware of key messages regarding soil health, though this understanding does not always translate into behavior. Five statements incorporating key messages about healthy soil were read in random order to all respondents as part of the survey. They were asked whether they agreed or disagreed with each statement. Desired responses to each statement are highlighted in the “agree” and “disagree” columns in Table 4-3. The majority of respondents provided the desired answers.

Table 4-3. Respondents’ Agreement with Healthy Soil Statements

Statement	Agree	Disagree
Healthy soil soaks up excess rainwater and slows runoff.	95%	5%
A high level of watering is essential to maintaining healthy plant growth.	17%	83%
Compost enriches soil and improves plant growth.	99%	1%
Healthy soil is free of worms and bugs.	8%	92%
Healthy soil protects plants from pest and disease problems.	87%	13%

Information Sources & Program Awareness

The survey asked residents where they obtain information on lawn and garden care for the local area. **The largest group (37%) of respondents reported that they typically use gardening books, catalogs, or magazines.** About one-quarter (24%) uses the internet for gardening information.

The survey also asked whether residents are aware of the information and programs on lawn and garden care that King County, the cities of Seattle and Bellevue, and the Saving Water Partnership offer. **Over half (55%) of residents are aware that local governments provide lawn and garden care programs and information, and one-third (33%) of those reported using the programs.**


In an unaided question, the top efforts that those who participated in the programs reported using are:

- General composting assistance (18%);
- Compost bin distribution or events (12%);
- Water conservation or watering guidelines (12%); and
- Master Gardeners (10%).


Commonly Used Programs

Among those who report using government-sponsored programs related to lawn & garden care


18% General composting assistance



12% Compost bin events or distribution



12% Water conservation or watering guidelines



10% Master Gardeners

5. Profile of Respondents

This section presents demographics and other information – such as yard characteristics, yard care involvement, and perceptions – for the residents that participated in the 2003 *Healthy Soil Survey*.

Survey Demographics

Table 5-1 summarizes the demographic information that the 892 survey respondents provided.

Table 5-1. Demographic Characteristics of Survey Population

Characteristic	Statistics
Age	52% between 35 and 54 years of age ⁴
Gender	50% female and 50% male
Ethnicity	90% Caucasian; 1%-2% each of other ethnic backgrounds ⁵
Education level	56% have four-year college or graduate degrees
Children	41% have children in the household (23% for under age 10; 25% for ages 10-18)
Pets	63% have pets in the household
Residency	76% live in cities or towns (including 31% in Seattle, 8% in the Bellevue area, and 37% in other King County cities); 24% live in unincorporated areas ⁶ 89% homeowners; 11% renters 54% lived at current residence for 10 years or less; 46% more than 10 years

Yard Characteristics

Respondents were also asked to describe characteristics of their yard. Nearly half of all respondents (48%) reported that a grass lawn covers half or less than half of their yard. Tree and shrub areas (89%) along with flower gardens (80%) are reportedly common among residents, while vegetable gardens are less common (37%).

Yard Care Involvement

When asked about their level of interest in yard care, most residents (62%) reported a moderate to high level of interest. About one-third reported doing just enough to maintain the status quo.

Slightly over half (52%) of those with both lawns and gardens reported spending more time caring for garden areas than their lawn, while less than a third (31%) spend more time on their lawn.

⁴ Quota maximums were set for the 55 to 64 and the 65 and over age groups.

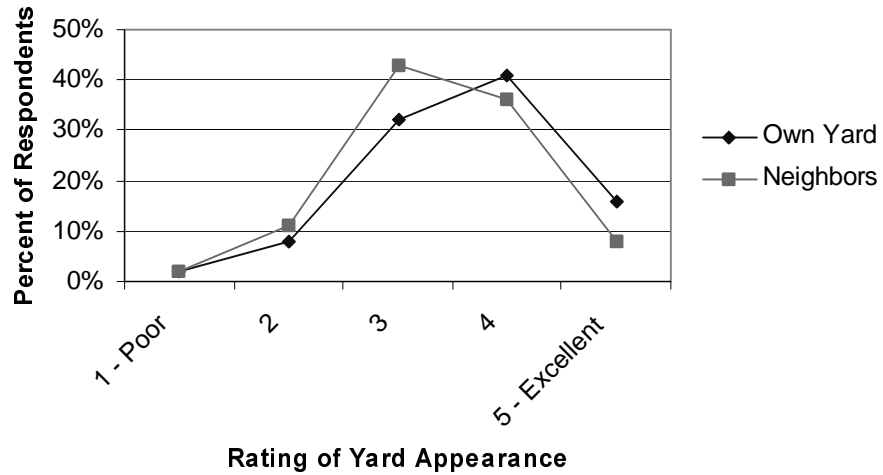
⁵ Other ethnic backgrounds included Hispanic/Latino, Black/African-American, Native American/American Indian, Chinese-American, Japanese-American, Other Asian/Pacific Islander, and other mixed racial heritage.

⁶ Like all results presented in this summary, these figures are weighted according to their portion of King County's population of single-family households. Seattle, Bellevue, and other King County areas each represented about one-third of those surveyed.

Yard Perceptions

Figure 5-2 highlights respondents' reported perception of their own yard as well as other yards in their neighborhood. Residents were asked to rank the appearance of each on a scale of 1 to 5, where 1 is poor and 5 is excellent. Respondents generally rated their own yards (average score 3.6) as having a slightly better appearance than other yards in their neighborhood (average score 3.4). For the high scores of 4 and 5, 57% gave those ratings to their own yards, while 44% rated their neighbors' yards accordingly.

Figure 5-2. Appearance of Own Yard and Yards in Neighborhood



3.

**Final Phone
Survey Instrument
& Topline Report**

Results for:

Overall King County

King County excluding Seattle

City of Seattle

Bellevue Area

KING COUNTY SOLID WASTE DIVISION/CITIES OF SEATTLE AND BELLEVUE
2003 Healthy Soil Survey
FINAL Revised Survey Instrument 4/28/03
TOPLINE RESULTS¹

Hello. My name is _____ from Market Trends, an independent research firm. Today/Tonight we are conducting a survey for King County, Seattle, and Bellevue, and would like to include your opinions. This survey will take about 10 to 12 minutes to complete.

S1 For this survey, I need to speak with the person in your household most responsible for taking care of your lawn and garden. Would that be you?

	<u>KC Wt</u> 100%	<u>KC/Bell Wt</u> 100%	<u>Seattle</u> 100%	<u>Bellevue</u> 100%
1- Yes	0%	0%	0%	0%
2- No (thank and terminate)	0%	0%	0%	0%
3- Refused (thank and terminate)	0%	0%	0%	0%

S2 And, may I please have your age?

1- Under 25	3%	3%	3%	3%
2- 25 to 34	15%	14%	20%	15%
3- 35 to 44	25%	24%	27%	24%
4- 45 to 54	27%	27%	27%	30%
5- 55 to 64	16%	18%	11%	15%
6- 65 and over	14%	14%	12%	14%
7- Don't know/refused				

¹ This survey included 892 responses: 300 from Seattle, 300 from Bellevue and surrounding communities, and 292 from elsewhere in King County. The "KC Wt" column reports the aggregated responses weighted proportional to single-family household population for King County as a whole, including Seattle. The "KC/Bell Wt" column shows data for King County excluding Seattle, including the Bellevue results weighted relative to its proportion of King County's population. The "Seattle" and "Bellevue" columns report pure unweighted data for each of those cities. The Bellevue survey also covered the neighboring communities of Beaux Arts, Clyde Hill, Hunts Point, Medina, and Yarrow Point.

S3	Record gender	KC Wt	KC/Bell Wt	Seattle	Bellevue
		<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
	1- Male	50%	51%	48%	50%
	2- Female	50%	49%	52%	50%
S4	Is your home a single-family house?				
	1- Yes	0%	0%	0%	0%
	2- No (thank and terminate)				
	3- Don't know/refused				
S5	Do you own your house?				
	1- Yes	89%	91%	83%	90%
	2- No	11%	9%	17%	10%
	3- Don't know/refused				
S7	Do you live in a city or an unincorporated area of King County?				
	1- Live in a city or town	76%	65%	100%	100%
	2- Live in an unincorporated area of King County	24%	35%	0%	0%
	3- Not in King County (thank and terminate)	0%	0%	0%	0%
	4- Don't know/refused				

S8 (If city or town in S7) In what city or town do you reside?

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Algona	1%	1%	0%	0%
2- Auburn	2%	4%	0%	0%
3- Beaux Arts	0%	0%	0%	0%
4- Bellevue	10%	16%	0%	95%
5- Black Diamond	0%	0%	0%	0%
6- Bothell	2%	4%	0%	0%
7- Burien	2%	3%	0%	0%
8- Carnation	0%	0%	0%	0%
9- Clyde Hill	0%	0%	0%	2%
10- Covington	1%	1%	0%	0%
11- Des Moines	1%	2%	0%	0%
12- Duvall	0%	0%	0%	0%
13- Enumclaw	1%	1%	0%	0%
14- Fall City	0%	0%	0%	0%
15- Federal Way	4%	7%	0%	0%
16- Hunts Point	0%	0%	0%	0%
17- Issaquah	2%	3%	0%	0%
18- Kenmore	1%	2%	0%	0%
19- Kent	6%	9%	0%	0%
20- Kirkland	5%	8%	0%	0%
21- Lake Forest Park	1%	2%	0%	0%
22- Maple Valley	2%	3%	0%	0%
23- Medina	0%	0%	0%	3%
24- Mercer Island	1%	1%	0%	0%
25- Milton	0%	0%	0%	0%
26- Newcastle	1%	1%	0%	0%
27- Normandy Park	1%	1%	0%	0%
28- North Bend	1%	1%	0%	0%
29- Pacific	1%	1%	0%	0%
30- Redmond	3%	5%	0%	0%

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
31- Renton	3%	6%	0%	0%
32- Sammamish	3%	5%	0%	0%
33- SeaTac	1%	1%	0%	0%
34- Seattle	41%	0%	100%	0%
35- Shoreline	2%	4%	0%	0%
36- Skykomish	0%	0%	0%	0%
37- Snoqualmie	1%	1%	0%	0%
38- Tukwila	1%	1%	0%	0%
39- Woodinville	1%	1%	0%	0%
40- Yarrow Point	0%	0%	0%	0%
41- Other (specify)	0%	0%	0%	0%
42- Don't know/Refused				

S9 Just to verify, what is the ZIP code where you live?

98-____-____

S10 Does your home have a yard?

1- Yes	100%	100%	100%	100%
2- No (thank and terminate)	0%	0%	0%	0%
3- Don't know/refused				

S11 Do you primarily use a landscaping service to take care of your yard, or do you do it yourself?

1- By myself	92%	91%	94%	86%
2- Landscaping service (thank and terminate)	0%	0%	0%	0%
3- Shared/equal responsibility	8%	9%	6%	14%
4- Don't know/refused				

I would like to now ask you some questions about the type and size of the yard at your home.

Q1 About how much of your yard is covered by a grass lawn? (read list)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- All lawn	11%	12%	8%	5%
2- Most	42%	44%	36%	43%
3- Half	22%	21%	22%	23%
4- Less than half	22%	19%	27%	24%
5- No lawn	4%	3%	7%	5%
6- Don't know/refused				

Q2 Does your yard have a vegetable garden, flower garden, or a tree and shrub area? (allow multiple responses)

1- Vegetable garden	37%	36%	41%	36%
2- Flower garden	80%	79%	80%	82%
3- Tree and shrub area	89%	90%	87%	93%
4- None	3%	3%	3%	1%
5- Don't know/refused				

Q3 (Don't ask if "no lawn" or "all lawn" in Q1) When it comes to the amount of time spent caring for your yard, do you spend more time caring for your lawn or your garden areas?

1- Lawn	31%	33%	25%	29%
2- Garden	52%	47%	62%	50%
3- Equal	18%	20%	13%	21%
4- Don't know/refused				

Q4 Would you describe your home location as a... (read list)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- City lot	43%	23%	86%	28%
2- Suburban lot	41%	54%	12%	70%
3- Rural lot	16%	23%	2%	2%
4- Don't know				
5- Refused				

Q4.5 (If "city lot" in Q4) For a CITY lot, is its size... (read list)

1- Small	19%	12%	22%	4%
2- Average	50%	50%	50%	52%
3- Large	32%	38%	28%	44%
4- Don't know/refused				

Q4.5 (If "suburban lot" in Q4) For a SUBURBAN lot, is its size... (read list)

1- Small	15%	15%	18%	6%
2- Average	54%	54%	59%	57%
3- Large	31%	31%	24%	37%
4- Don't know/refused				

Q4.5 (If "rural lot" in Q4) For a RURAL lot, is its size... (read list)

1- Small	16%	17%	0%	0%
2- Average	34%	34%	40%	17%
3- Large	49%	49%	60%	83%
4- Don't know/refused				

The next few questions are related to the types of materials and products used in your yard.

Q5 Which of the following materials are used on your lawn and garden? (read list and rotate; allow multiple responses)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Bark or wood chips	61%	67%	49%	70%
2- Chemical fertilizers	40%	47%	24%	54%
3- Compost	59%	55%	66%	56%
4- Organic fertilizer	45%	45%	45%	46%
5- Weed killers or Weed-n-Feed products	52%	61%	31%	61%
6- Other/specify: Moss killers/removers/spray	2%	3%	1%	2%
7- Other/specify: Insecticides/pesticides/slug bait	2%	2%	1%	2%
8- Other/specify: Lime	2%	2%	1%	2%
9- Other/specify: Soil/topsoil	1%	1%	1%	1%
10- Other (specify)	3%	3%	4%	4%
11- Don't know/refused				

Q6 (If bark or wood chips in Q5) How often are bark or wood chips, typically applied to your garden beds?

1- Less than once per year	49%	52%	38%	47%
2- Once per year	44%	42%	51%	43%
3- 2-3 times per year	6%	5%	10%	9%
4- More than 3 times per year	1%	1%	0%	1%
5- Don't know/refused				

Q7 (If chemical fertilizers in Q5) How often are chemical fertilizers typically applied to your lawn?

1- Less than once per year	14%	11%	26%	11%
2- Once per year	38%	38%	35%	28%
3- 2-3 times per year	38%	40%	31%	39%
4- More than 3 times per year	10%	10%	8%	22%
5- Don't know/refused				

Q7.5 (If chemical fertilizers in Q5) How often are chemical fertilizers typically applied to your garden beds?

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Less than once per year	26%	27%	25%	39%
2- Once per year	30%	31%	27%	20%
3- 2-3 times per year	22%	21%	22%	20%
4- More than 3 times per year	22%	21%	27%	20%
5- Don't know/refused				

Q8 (If compost in Q5) How often is compost typically applied to your garden beds?

1- Less than once per year	10%	10%	10%	12%
2- Once per year	56%	56%	56%	54%
3- 2-3 times per year	27%	28%	27%	26%
4- More than 3 times per year	7%	6%	7%	7%
5- Don't know/refused				

Q10 (If weed killers or Weed-n-Feed in Q5) How often are weed killers or Weed-n-Feed products typically applied to your yard?

1- Less than once per year	12%	12%	13%	7%
2- Once per year	44%	45%	41%	41%
3- 2-3 times per year	33%	32%	36%	37%
4- More than 3 times per year	11%	11%	10%	15%
5- Don't know/refused				

Your participation in this survey is extremely valuable. Thanks for your patience. Now I'm going to ask you a few questions about your household's composting and mowing practices.

Q11 (If compost in Q5) Which of the following types of compost are used in your yard? (read list and rotate 1-4; allow multiple responses)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Bagged compost bought from a store	46%	42%	54%	49%
2- Bulk compost	27%	26%	30%	28%
3- Compost made at home from yard waste	60%	64%	53%	58%
4- Compost made at home from food waste	34%	32%	39%	22%
5- Other/specify: Manure - Horse/Steer/ZooDoo	2%	3%	2%	1%
6- Other (specify)				
7- Don't know/refused				

Q12 (If compost yard waste or food waste at home in Q11) What type of compost bin is used at your home? (read list and rotate 1-5; allow multiple responses)

1- Earth Machine bin	10%	12%	8%	13%
2- RPM's Seattle Composter	15%	13%	20%	25%
3- Green cone	9%	5%	16%	9%
4- Worm bin	11%	8%	18%	6%
5- Open pile	43%	49%	31%	38%
6- Other/specify: Homemade unit/custom built	11%	10%	14%	11%
7- Other/specify: Purchased at retail outlet	6%	6%	5%	2%
8- Other/specify: Wooden slat bin from the County/City	2%	2%	3%	2%
9- Other (specify)	3%	3%	2%	4%
10- None	3%	4%	2%	3%
11- Don't know/refused				

Q13 (If Earth Machine in Q12) How satisfied are you with your EARTH MACHINE BIN? (read list)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Very satisfied	26%	27%	22%	23%
2- Satisfied	47%	47%	44%	62%
3- Neither satisfied nor dissatisfied	28%	26%	33%	15%
4- Dissatisfied	0%	0%	0%	0%
5- Very dissatisfied	0%	0%	0%	0%
6- Don't know/refused				

Q13 (If RPM in Q12) How satisfied are you with your RPM'S SEATTLE COMPOSTER? (read list)

1- Very satisfied	35%	44%	25%	40%
2- Satisfied	49%	45%	54%	45%
3- Neither satisfied nor dissatisfied	9%	9%	8%	10%
4- Dissatisfied	6%	1%	13%	5%
5- Very dissatisfied	0%	0%	0%	0%
6- Don't know/refused				

Q13 (If Green Cone in Q12) How satisfied are you with your GREEN CONE? (read list)

1- Very satisfied	45%	46%	44%	33%
2- Satisfied	36%	54%	25%	67%
3- Neither satisfied nor dissatisfied	15%	0%	25%	0%
4- Dissatisfied	4%	0%	6%	0%
5- Very dissatisfied	0%	0%	0%	0%
6- Don't know/refused				

Q13 (If worm bin in Q12) How satisfied are you with your WORM BIN? (read list)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Very satisfied	49%	46%	52%	0%
2- Satisfied	41%	39%	43%	50%
3- Neither satisfied nor dissatisfied	8%	13%	5%	17%
4- Dissatisfied	1%	1%	0%	17%
5- Very dissatisfied	1%	1%	0%	17%
6- Don't know/refused				

Q14 (If use compost in Q5) How is compost used in your yard? (read list and rotate 1-4; allow multiple responses)

1- Applied as a mulch – on top of your garden	61%	62%	58%	63%
2- Applied to lawn	16%	17%	13%	14%
3- Mixed into garden	72%	74%	68%	71%
4- Added into planting holes with new trees or shrubs	59%	62%	51%	55%
5- Other (specify)	2%	1%	2%	1%
6- Don't know/refused				

Q15 (Don't ask if "no lawn" in Q1) What is typically done with your grass clippings? (allow multiple responses)

1- Left on lawn	42%	42%	44%	26%
7- Placed into garbage containers at the curb	4%	4%	5%	1%
2- Placed into yard waste recycling containers at the curb	34%	33%	37%	55%
3- Composted at your home	22%	24%	19%	24%
4- Placed around trees and shrubs	2%	2%	1%	1%
5- Taken to a transfer station/the dump	2%	2%	3%	1%
6- Handled by landscaper/yard care service	2%	1%	3%	3%
7- Placed into a heap/brush pile	6%	8%	2%	4%
8- Other/specify: Fed to animals	2%	3%	0%	0%
9- Other (specify)	2%	2%	1%	0%
10- Don't know/refused				

The next few questions are about how weeds, pests, and diseases are managed in your yard.

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
Q16 How does your household typically manage weeds? (allow multiple responses)				
1- Apply weed killer regularly	6%	8%	3%	9%
2- Apply weed killer only when needed	25%	30%	14%	30%
3- Pull weeds by hand	79%	77%	86%	84%
4- Hire a professional	1%	2%	0%	3%
5- Apply homemade remedy	3%	3%	3%	1%
6- Nothing	4%	4%	5%	2%
7- No weed problems	3%	3%	3%	1%
8- Other/specify: Take measures to prevent weeds from occurring	1%	2%	0%	3%
9- Other/specify: Mow over them	1%	2%	0%	2%
10- Other/specify: Apply a least toxic alternative	0%	0%	0%	0%
11- Other (specify)	0%	0%	1%	0%
12- Don't know/refused				

Q17 How does your household typically manage garden pests or insects? (allow multiple responses)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Apply pesticide/insecticide regularly	5%	5%	3%	6%
2- Apply pesticide/insecticide only when needed	26%	31%	17%	28%
3- Kill bugs by hand	9%	8%	11%	7%
4- Hire a professional	2%	2%	2%	4%
5- Insecticidal soap	6%	5%	7%	5%
6- Use homemade remedy	12%	11%	13%	7%
7- Introduce beneficial plants/bugs	4%	3%	6%	4%
8- Remove affected plants	2%	1%	5%	1%
9- Nothing	22%	19%	28%	14%
10- No pest or insect problems	25%	28%	20%	31%
11- Other/specify: Apply a least toxic alternative	2%	1%	3%	2%
12- Other (specify)	2%	1%	2%	1%
13- Don't know/refused				

Q18 How does your household typically manage diseases on lawn and garden plants? (allow multiple responses)

1- Apply chemical treatments	23%	27%	14%	28%
2- Remove diseased leaves	12%	10%	16%	12%
3- Remove entire diseased plant	11%	10%	14%	11%
4- Use homemade remedy	8%	8%	9%	5%
5- Nothing	17%	13%	24%	14%
6- No disease problems	38%	41%	32%	36%
7- Other/specify: Apply a least toxic alternative	1%	1%	1%	1%
8- Other/specify: Hire a professional	1%	1%	0%	1%
9- Other (specify)	1%	1%	1%	2%
10- Don't know/refused				

I have a few questions about the soil in your yard.

Q19 What kind of soil is in your yard? Is it... (read list)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Sandy	13%	11%	17%	9%
2- Clay-like	26%	28%	22%	33%
3- Mixed	61%	61%	61%	57%
4- Don't know				
5- Refused				

Q20 Overall, would you say you have healthy soil in your yard?

1- Yes	79%	77%	82%	74%
2- No	21%	23%	18%	26%
3- Don't know				
4- Refused				

Q21 (If yes in Q20) How do you know your soil is healthy? (allow multiple responses)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Your plants are healthy	79%	79%	78%	79%
2- It contains worms or other beneficial organisms	10%	10%	9%	10%
3- You've examined it	8%	8%	7%	11%
4- Color of soil	17%	17%	15%	11%
5- Smell of soil	3%	4%	2%	2%
6- You've tested it using a kit or had someone else test it	4%	4%	6%	6%
7- It retains water over time	4%	3%	7%	5%
8- It drains well	8%	8%	8%	4%
9- It is well aerated	5%	6%	3%	2%
10- It contains organic material	4%	4%	5%	4%
11- You've added compost or other soil amendments	9%	8%	12%	8%
12- You haven't used pesticides or other chemicals	4%	4%	4%	1%
13- Other/specify: You put in new topsoil	3%	3%	1%	2%
14- Other/specify: Texture/it is not too hard/is easy to work with	2%	2%	2%	1%
15- Other/specify: A professional told you it was healthy	1%	1%	0%	1%
16- Other (specify)	3%	4%	3%	0%
17- Don't know				
18- Refused				

Q22 (If no in Q20) How do you know your soil is unhealthy? (allow multiple responses)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Your plants are unhealthy	40%	41%	37%	38%
2- You've examined it	12%	13%	10%	12%
3- Water runs off or soil is compacted	44%	47%	37%	45%
4- Color of soil	7%	7%	6%	10%
5- It contains few or no worms and no other beneficial organisms	4%	5%	2%	3%
6- You've tested it using a kit or had someone else test it	1%	2%	0%	1%
7- Other/specify: Soil is rocky/sandy and rocky	10%	9%	12%	4%
8- Other/specify: My lawn has moss/weeds/clover	7%	8%	6%	6%
9- Other/specify: Erosion	3%	3%	2%	4%
10- Other/specify: Only thin layer of soil over rock	2%	2%	4%	3%
11- Other/specify: A lot of fir/pine trees/needles	5%	6%	2%	0%
12- Other/specify: Very soggy/poor drainage	1%	2%	0%	4%
13- Other/specify: Contains little organic matter	1%	0%	4%	1%
14- Other/specify: Texture/consistency	1%	0%	2%	3%
15- Other/specify: All soil in the neighborhood is poor	1%	0%	2%	1%
16- Other (specify)	4%	2%	10%	4%
17- Don't know				
18- Refused				

Q23 Please tell me whether you 1) agree or 2) disagree, 3) Don't know, with the following statements... (read and rotate list)
(Percentage agree)

1- "Healthy soil soaks up excess rainwater and slows runoff."	95%	96%	94%	93%
2- "A high level of watering is essential to maintaining healthy plant growth."	17%	17%	19%	21%
3- "Compost enriches soil and improves plant growth."	99%	99%	99%	98%
4- "Healthy soil is free of worms and bugs."	8%	8%	9%	9%
5- "Healthy soil protects plants from pest and disease problems."	87%	88%	87%	87%

We're interested in how your household has changed its yard care practices during the last few years.

		(% Increased)			
		<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
Q24	For each of the following, have you 1) increased, 2) decreased, 3) remained the same, or 4) never used (read and rotate list)				
1-	Compost	32%	29%	39%	31%
2-	Chemical fertilizers	4%	5%	3%	5%
3-	Water	10%	10%	12%	16%
4-	Drought-tolerant plants	29%	27%	34%	35%
5-	Organic fertilizers	24%	22%	28%	22%
6-	Weed killers or Weed-n-Feed products	6%	6%	4%	7%
7-	Bug killers	4%	4%	3%	4%

The next few questions are about where you buy yard care materials and products.

		<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
Q25	Where does your household typically shop for plants? (allow multiple responses)				
1-	Nurseries & garden stores	62%	62%	62%	69%
2-	Large hardware/home improvement stores	46%	48%	42%	61%
3-	Smaller hardware stores	9%	10%	9%	4%
4-	Department stores	17%	18%	14%	10%
5-	Grocery/drug store	6%	6%	6%	5%
6-	Plant sales	6%	4%	10%	3%
7-	Catalogs/Internet	2%	2%	2%	2%
8-	Other/specify: Trade/get from friends/family/neighbors	2%	1%	2%	2%
9-	Other (specify)	1%	2%	1%	2%
10-	Don't buy any	6%	5%	8%	4%
11-	Don't know/refused				

Q26 Where does your household typically shop for lawn and garden supplies like tools or other yard care products? (allow multiple responses)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Nurseries & garden stores	11%	8%	18%	9%
2- Large hardware/home improvement stores	72%	75%	66%	85%
3- Smaller hardware stores	20%	18%	23%	9%
4- Department stores	19%	21%	17%	14%
5- Grocery/drug store	1%	1%	2%	1%
6- Catalogs/Internet	1%	1%	2%	1%
7- Other/specify: Garage/yard/estate sales	1%	0%	2%	1%
8- Other (specify)	2%	2%	2%	2%
9- Don't buy any	4%	4%	4%	4%
10- Don't know/refused				

Q27 Where does your household typically find information on lawn and garden care for this area? (allow multiple responses)

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Newspaper	19%	16%	23%	22%
2- Radio	6%	6%	6%	5%
3- Television	8%	8%	6%	7%
4- Neighbors/family/friends	16%	15%	17%	15%
5- Gardening books/catalogs/magazines	37%	37%	36%	43%
6- Store staff	19%	19%	18%	19%
7- Master Gardeners	4%	4%	5%	3%
8- Master Recycler Composters (MRCs)	0%	0%	0%	0%
9- Master Composter Soilbuilders	0%	0%	0%	0%
10- Internet	24%	25%	21%	24%
11- Hotlines	0%	0%	1%	0%
12- City of Seattle	2%	1%	5%	0%
13- City of Bellevue	1%	1%	0%	4%
14- Saving Water Partnership	0%	0%	0%	1%
15- King County	3%	3%	3%	2%
16- Washington State University (WSU) Cooperative Extension or County Extension	2%	1%	3%	2%
17- Other (specify)	4%	3%	5%	3%
18- Other/specify: Information received from landscapers/lawn service	1%	1%	0%	2%
19- Other/specify: Library	1%	1%	1%	0%
20- Don't look for this information	17%	18%	14%	13%
21- Don't know/refused				

Q28 (If not Seattle or not in King County in S8) Are you aware that King County provides information and programs on lawn and garden care?

1- Yes	53%	53%	N/A	59%
2- No	47%	47%	N/A	41%
3- Don't know				
4- Refused				

Q29 (If zip is 98004, 98005, 98006, 98007, 98008, 98039, 98009, 98015 in S9) Are you aware that the City of Bellevue and the Saving Water Partnership provide information and programs on lawn and garden care?

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Yes	44%	44%	N/A	43%
2- No	56%	56%	N/A	57%
3- Don't know				
4- Refused				

Q30 (If Seattle in S8) Are you aware that the City of Seattle provides information and programs on lawn and garden care?

1- Yes	60%	N/A	60%	N/A
2- No	40%	N/A	40%	N/A
3- Don't know				
4- Refused				

Q31 (If yes in Q28, Q29, or Q30) Have you used any of these programs?

1- Yes	33%	30%	39%	35%
2- No	67%	70%	61%	65%
3- Don't know/refused				

Q32 (If yes to Q31) Which ones have you used?

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Watering guidelines/water conservation	12%	14%	8%	21%
2- Received composting bin from them/compost bin event	12%	8%	19%	11%
3- Master Gardeners	10%	12%	7%	21%
4- Drought resistant/native plants	8%	9%	7%	12%
5- Web site/online help	8%	8%	8%	7%
6- Have read information mailed to me/picked up brochures	7%	6%	8%	9%
7- Lawnmowers-mulching mower/exchange gas mower for electric one	9%	9%	8%	4%
8- Lawn care/lawn and garden care	6%	6%	5%	9%
9- Use of organic/non-toxic products	7%	10%	2%	9%
10- Gardens-Botanical/King County display/Demonstration Garden	1%	2%	0%	14%
11- County Extension service/UW Cooperative Extension	3%	3%	3%	4%
12- Seattle Tilth	3%	0%	7%	0%
13- Mulching/grasscycling	3%	4%	2%	0%
14- Tree related	2%	0%	5%	0%
15- Worm bins	2%	3%	0%	4%
16- Recycling program	1%	1%	2%	4%
17- Garden dialing/dial up service	2%	2%	2%	0%
18- Soaker hose	2%	2%	2%	0%
19- Yard Day promotions/garden supply purchase program	2%	2%	2%	0%
20- Other composting related comments	18%	17%	20%	11%
21- Other specific topics like weed/pest control/soil management	4%	3%	5%	5%
22- Other	11%	13%	8%	11%

We're almost finished. These last few questions will be used for statistical purposes only.

		<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
D1	How would you describe yourself in terms of your interest in yard care? (read list)				
	1- I love gardening; it's one of my most favorite pastimes.	21%	18%	27%	20%
	2- I enjoy gardening; but it is one of many interests.	41%	42%	40%	42%
	3- I take care of just enough to keep my yard looking good.	32%	35%	27%	32%
	4- I have little or no interest in yard care.	5%	5%	6%	6%
	5- Other (specify)	1%	1%	0%	0%
	6- Don't know/refused				
D2	On a scale from 1 to 5, where 1 is poor and 5 is excellent, how would you rate the appearance of your yard?				
	1- 1 – Poor	2%	2%	2%	1%
	2- 2	8%	7%	12%	6%
	3- 3	32%	33%	32%	34%
	4- 4	41%	42%	40%	41%
	5- 5 – Excellent	16%	16%	15%	17%
	6- Don't know/refused				
D3	[On the same scale] How would you rate the appearance of yards in your neighborhood (on average)?				
	1- 1 – Poor	2%	2%	2%	1%
	2- 2	11%	10%	14%	10%
	3- 3	43%	43%	43%	39%
	4- 4	36%	38%	32%	39%
	5- 5 – Excellent	8%	7%	10%	10%
	6- Don't know/refused				

D4 How many years have you lived at your present residence?

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- Less than 3 years	20%	19%	21%	16%
2- 3 to 5 years	15%	14%	16%	17%
3- 6 to 10 years	19%	19%	20%	19%
4- 11 to 20 years	23%	25%	19%	22%
5- More than 20 years	23%	23%	24%	27%
6- Don't know/refused				

D5 What is the highest level of education you have had the opportunity to complete?

1- High school graduate or less	17%	20%	10%	7%
2- Some college/Technical school/AA degree	28%	30%	23%	23%
3- 4-year college degree	35%	34%	37%	38%
4- Post graduate work/degree	21%	16%	31%	32%
5- Don't know/refused				

D6 How many children live in your household?

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
# under age 10 _____				
1- None	77%	78%	76%	72%
2- One	10%	9%	11%	10%
3- Two	10%	10%	10%	13%
4- Three or more	3%	3%	2%	5%
5- Don't know/refused				

between ages 10 and 18 _____

1- None	75%	72%	81%	74%
2- One	15%	16%	12%	15%
3- Two	9%	11%	6%	8%
4- Three or more	1%	1%	0%	3%
5- Don't know/refused				

D7 How many dogs and cats do you own?

1- None	37%	36%	40%	43%
2- One	31%	31%	30%	29%
3- Two	19%	19%	21%	19%
4- Three or more	13%	14%	9%	9%
5- Don't know/refused				

D8 What ethnic group best describes your background?

	<u>KC Wt</u>	<u>KC/Bell Wt</u>	<u>Seattle</u>	<u>Bellevue</u>
1- White/Caucasian	90%	94%	84%	87%
2- Hispanic/Latino	1%	1%	1%	0%
3- Black/African-American	2%	1%	4%	1%
4- Native American/American Indian	1%	0%	1%	1%
5- Chinese-American	1%	0%	1%	2%
6- Japanese-American	1%	0%	1%	1%
7- Other Asian/Pacific Islander	2%	1%	3%	5%
8- Other mixed racial heritage	2%	1%	5%	3%
9- Don't know/refused				

Thank you very much for your time and assistance.