

**Promoting education, awareness, participation and effectiveness in composting on
campus**

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THE UNIVERSITY OF BRITISH COLUMBIA FOOD SYSTEMS PROJECT



SCENARIO 7:

Promoting education, awareness, participation and effectiveness in composting on campus

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ABSTRACT

Acadia and University Apartments of the University of British Columbia (UBC) are home to some 800 families. Each month there is a heavy influx and efflux of families due to the temporary nature of the housing. As a result, it's difficult to ensure composting awareness and practice remains steady among residents. To increase awareness of composting at UBC, and specifically in the Acadia Family Residences and University Apartments, we designed an informational article about composting, a survey for the residents of Acadia to evaluate their composting awareness and habits, and a children's activity page. The adult information page, the survey, and the children's activity page were added to the April edition of Acadia's monthly newsletter and distributed April 1st, 2007. Upon return of our surveys (April 8th, 2007), it was determined that the majority of the residents were interested in improving composting practices in their residence.

We collaborated with Carol Young, the Residence Life Manager at Acadia Family Housing, to provide practical solutions to increase the awareness and incidence of composting at this housing unit. We would recommend that upcoming students continue to strengthen this relationship and work together with Ms. Young to further facilitate composting at Acadia and University Apartments. We believe this is a relatively untapped population that can aid in increasing composting and decreasing waste at the University of British Columbia.

Introduction

The purpose of this paper is to examine the current situation and levels of participation in composting on the University of British Columbia (UBC) campus as well as provide recommendations for improvements on the key problem areas. In the fall of 2006 UBC Food Services launched a new organic waste composting and recycling program where 17 new recycling and composting stations were distributed throughout their retail food and beverage outlets. Since its launch the In-Vessel Composting Facility program has faced many challenges. These include a lack of consumer awareness on campus about composting and the In-Vessel Composting Facility and frequent breakage of the machines due to contamination of the green bins. Our group has been asked to analyze these issues and challenges, assess the barriers and existing tools, and help to widen the scope of research regarding these challenges. Furthermore, we have been asked to provide recommendations for areas of development for the UBC composting program that could encourage more successful participation in composting on campus.

We feel that the continued growth of and participation in an effective campus-wide composting program will help shape the future of the UBC food system. This paper will begin by defining the problem within our scenario followed by a discussion of our assigned problem. Next, we present our group reflections on the Vision Statement and the seven guiding principles developed by the project partners. We will then describe the current UBC composting system and report our research findings from secondary sources, interviews, and surveys that we have conducted to identify

existing trends in composting at UBC. To conclude, we will discuss our central findings and positions. This discussion articulates the ideas that we have developed over this term of work and during our involvement in the entire AGSC series. Our group's recommendations will be addressed to all stakeholders involved in the composting scenario as well as to next year's AGSC 450 students. We hope that the entire UBC community will find our report useful in creating a more sustainable campus community. Lastly, we will discuss the linkages between the UBCFSP and the globalized food system.

Problem Definition

Each year, the city of Vancouver generates approximately 350,000 tonnes of residential and commercial solid waste. "Fortunately, various initiatives have reduced the amount of waste produced by over 50% compared to 1990 levels" (Underwood, 2006). The City of Vancouver practices composting and then sells the composted waste for profit, mainly to landscapers for mulch and municipal Parks Boards for topsoil production.

The University of British Columbia produces 1900 tonnes of compostable waste each year consisting of food waste, residual paper products, animal bedding, wood, yard waste, and sawdust. To aid in reducing this large amount of compostable waste, UBC has installed its own In-Vessel Composting Facility — the first of its kind at a Canadian university.

Unfortunately, there has been and continues to be rampant contamination of UBC's composting bins. This contamination results from extraneous, non-compostable material being thrown in amongst the waste that can be composted. This

is thought to be because UBC's population is confused about what materials can and can not be composted, and are therefore throwing all sorts of things into the compost bins. Some might even think the compost bins are regular garbage cans or recycling bins. This foreign material causes damages and can break the In-Vessel machine thus temporarily derailing many of UBC's composting efforts.

The major challenge at this point is that people are not composting enough to justify the extra time and labour spent by UBC Waste Management to make more bin pick-ups. While awareness and acceptance of composting at UBC is increasing, we still have a long way to go. Also, past and current projects need to be evaluated in order to assess current trends and find out which initiatives seem to work and why.

Group Reflections and Assessment on the UBC FSP Vision Statement

Creating an equitable, all-encompassing vision statement is no easy task. To this end, the project's many collaborators have taken great strides.

Principle one starts off on the right foot as it calls for a system that will "protect and enhance the diversity and the integrity of the natural ecosystem and [the] resources that support it". This is of the utmost importance as biodiversity is the key to a stable system that will bend but not break. Studies have shown systems that rely on a wide-range of interspecific relationships are much less likely to collapse due to disturbance than their monoculture counterparts (Tilman, 1996).

Principle two hits on the need for local inputs and recycling where possible. This is crucial to a stable food system and local community. A region that can function independently these days is a rare thing. However, the closer to a closed-cycle — for food, energy, nutrients, money, and social capital — a community can be, the closer it is to our sustainable ideals.

Principle three speaks to what we all hope for — equity and security in our food choices. This issue is especially important at UBC and in Vancouver in general due to our rich diversity of culture, backgrounds, and lifestyles. We do, however, have one thing in common — we all need healthy, affordable food!

Principle four links to the previous principle as it asserts that we all require a healthy diet. This principle goes on to speak to the need for sustainability with our food systems. We definitely have to think of our children and their children when we plan for something as universal as food security.

The fifth point requires a sense of community and an enjoyment of the food before us. These ideas are too often forgotten in today's urbanized, industrialized world. With everyone hopping in their own car in the morning and going their separate ways, we often miss out on even the simple joys of life like befriending your neighbour and enjoying a family meal.

This goes directly into principle six which further encourages awareness and responsibility “within the community of every component from production to disposal”. There are fast food outlets and supermarkets to help us forget that carrots come from soil and steaks from the side of a steer. People must know what has been sacrificed to provide the meal in order to fully appreciate its value.

Principle seven asks for a mixture of local and imported food “from socially and ecologically conscious producers to ensure long-term financial viability”. Socially and ecologically conscious production has come to the forefront in recent years and it is incredibly important that we continue to improve on our work. UBC must continue to act as an innovative leader in this field through education and responsible production. Our group was also pleased to see that financial viability was included in this principle. While environmental and social concerns are extremely

important, it is hard to do the right thing in those capacities when you cannot keep your business profitable in the first place.

The final principle reminds us that what we do at UBC has a direct impact on other food systems. These impacted systems could be as close as Vancouver or as far as Chile. We, as responsible community members, must remember that every purchase, disposal, and lecture has the potential to change the world around us for better or worse. Which do we want?

That said, there are a few ambiguities in need of clarification. For starters, the second guiding principle, which advocates a closed, local cycle from production to decomposition, seems to be in disagreement with other parts of the statement. This, for example, seems to contradict principle number three which calls for “a secure system that provides food that is affordable, available, accessible, culturally, ethically and nutritionally appropriate, and safe and can adapt to changes”. The part of this we believe needs to be addressed is the call for culturally appropriate food. It is not that we wish to deny people their culture or the foods they prefer — in fact, we ourselves love all the variety that today’s food system offers — it is just it does not seem possible to grow all types of foods in a sustainable, local manner. It is a simple matter of climate and land type. We cannot, for example, hope to grow pineapples, star fruit, and mandarin oranges without huge energy inputs and/or genetic modification. The other option is to transport these and other foods into the region for the culture’s that demand them. This option, however, is no better than the other. How can we expect to maintain an air of sustainability with such a reliance on long trucking (or flight) distances and fossil fuels?

This brings us to principle seven which asks for “a balance of imported and local foods that come from socially and ecologically conscious producers to ensure

long-term financial viability”. Regardless of how responsible the producer is — how does importing a large portion of your food lead to local food security and sustainability? How can we make claims of food security and self-sufficiency when some of our foods come from miles away?

Like most problems with civilization — there are no easy answers. Are we ready to give up imported foods from all cultures for only those that can be sustainably grown in the fields of the Fraser Valley or the Okanagan? Is this even the answer? Or does importing some of our food actually provide another level of security on the off chance that our local production systems collapse? We certainly do not have all the answers — but that is okay. The triumph of such a vision statement is its ability to adapt over time as it is continually reviewed, questioned, and enhanced!

Methodology

First, our group reviewed previous papers on composting by AGSC 450 students and the Sauder School of Business. The group then brainstormed for a novel idea that we could all get behind. It was decided that the issue of composting should be addressed in the family housing community of UBC - Acadia Park and the University Apartments. This site was chosen as relatively no work had been done with this group by previous UBC Food System Project investigators.

Next we approached Carol Young, Residence Life Manager to Acadia and University Apartments. She was pre-interviewed by e-mail and then offered a face-to-face meeting. Young was a keen resource and gladly gave us the necessary background information. From her we obtained targets and potential ideas for collecting data and raising awareness.

To assess the composting knowledge and involvement of this particular community a simple survey was constructed (see Appendix A-1). The survey was then modified and adapted through our collaboration with the teaching team. Each copy of the survey was then attached to a letter of consent (provided by co-investigator Liska Richer) before being distributed in the residence's April newsletter. Copies of the survey were also left in the commons block. Posters were constructed and placed around the main office in order to advertise the composting survey and hopefully increase response rates. An extra incentive to return the survey was provided through a raffle. Survey respondents were automatically entered into a draw for a \$30 Safeway gift card.

An adult-oriented compost information section and a children's composting game page were prepared as well (see Appendix A-4). The adult page consisted of questions and answers to common, UBC-related composting and waste issues. A brief list of compost-safe materials was also included at the end of the section. The children's page used imagery, a few words, and an interactive maze that focused on composting procedure. These pages were also included in April's residence newsletter.

On April 8th the surveys were collected and results tabulated. Data was analyzed merely for trends due to a limited number of valid survey responses. All qualitative and quantitative results were recorded for subsequent use by future investigators.

Findings/Discussion

After reviewing the work done and progress made by previous AGSC 450 students, our group decided that rather than following up on one of these projects, we

would strike out on a new path. Our preceding colleagues tackled issues surrounding composting amongst first year students, in the Student Union Building, and in Totem Park and Place Vanier — both traditional dorm-style residences housing first and second year students. While we appreciate suggestions made by these groups, we saw that progress had been made in these subgroups and aimed to find a niche that had yet to be identified. In doing so, we aspired to not only continue to reduce the amount of waste from UBC going to the landfills, but also to establish a new partnership for this on-going Food Systems Project.

From the beginning of our brainstorming, it was clear that there was a general interest in focusing our efforts on one of the residence areas. Great things have come out of work done at Totem Park and Place Vanier, including the establishment of easy to use sorting stations at the exits of both their cafeterias. Having common eating areas in Totem and Vanier make them natural choices to establish a composting program, but this is not the case in all of the other suite style residences in which each apartment has their own cooking and eating facilities. This creates a challenge in finding a way to get inside (figuratively, not literally!) each apartment to set up a system of sorting, collecting, and disposing of all types of waste appropriately.

Acadia Park and University Apartments are the two residence areas we finally decided upon. These neighbouring complexes are located on the far-east side of campus, directly beside Fairview Crescent student housing. Unlike the other residence areas at UBC, Acadia and University Apartments are dedicated to family housing that provides accommodation for students, faculty, and staff of UBC. There are over 800 families or couples currently living in these areas, and of these approximately 540 are student families and 260 are faculty or staff.

Our rationale behind choosing family style housing was threefold. First, we couldn't find anything that led us to believe any work had been done either by UBC Housing or the by the UBC FSP to increase composting in these areas. Secondly, we had made the assumption that these families would be living on campus for longer than students in the traditional residences do, thus they would be more likely to change their practices. Lastly, we liked the fact that by targeting these two areas we would have the opportunity to address a wide range of ages. There are kids of all ages living in Acadia Park and we envisioned targeting them through fun and interactive educational programming. In doing so we hoped to help raise a new generation of composters.

An initial meeting and interview (conducted by two group members) with Carol Young, the Residence Life Manager of Acadia and University Apartments, proved to be very positive. Not only was she very interested in helping our group find the information we needed but was also excited to tell us that steps had already been taken towards increasing composting in these areas. A new partnership between UBC family housing and the UBC FSP could be a huge help for Carol and the project coordinators alike. She expressed that she and others had encountered a number of roadblocks and was delighted to hear of our desire to investigate the current status and awareness of composting in her residence areas. There is already a small composting program in place that largely involves residents making use of the community garden located next to the commonsblock. This is a somewhat centrally located garden that has 84 plots for families to make use of and within which the in-vessel compost collection bin is found. The only information regarding composting is found on posters within the garden area, thus it is generally only residents that have a garden plot who are aware of and bring organic waste materials to this collection bin. There

are some residents that don't garden that do still make use of these bins, however they are few in number.

Our findings are based mainly upon the information we learned from Carol who was an invaluable resource in the research and development of our ideas. She filled us in on the major challenges they faced when a somewhat unsuccessful previous attempt at implementing a composting program was made. First and foremost, there is a high number of international students who are unfamiliar with the concepts behind and the practice of composting organic waste. It has been difficult even establishing a recycling program in these residences and it is thought that adding composting bins to the already existing side by side garbage and recycling bins found throughout the residence areas would cause more confusion. This confusion creates new problems and extra work for the maintenance staff. Also, as the bins become contaminated the in-vessel composting machine is put in danger of jamming or breaking. It has been found that even after residents are fully informed as to the benefits and protocol of composting there is still resistance simply due to the fact that it isn't a part of their culture and they don't have any interest in participating. This is particularly true with residents who are visiting for a short time, perhaps a term or two. Contrary to our assumption, Acadia Park and University Apartments both have extremely transient populations and there are many families that will move in or out of the residences every month. This makes education regarding sustainable waste disposal difficult because just as people learn what to do they move out and new residents arrive. We can only hope they will take their new-found views on composting with them.

Carol shared our vision for targeting children in the residences. In fact, she thought that would be one of the more effective ways of helping reluctant parents try

composting. As she explained to us, many of these families are from overseas and the young children become “first generation” Canadians that are excited to learn the cultures and traditions of their new home. Carol has found that if the children of the families become excited about programming within the residence then the parents are much more likely to become involved as well. She explained to us that within Acadia and University Apartments there are “Community Assistants” that plan and run programs for different age groups and are always looking for new ideas for fun activities. She ventured that we may want to explore this avenue as a way of educating the younger children. As a group we created a fun yet simple game that a Community Assistant could play with a group of kids (see game instructions Appendix A-5).

Survey Results

Despite receiving only 31 of a possible 800 response forms, our group was encouraged by this initial interest in composting in Acadia and the University Apartments. On the downside, only 18 response sheets were useable as 13 of them were returned without the necessary consent forms. This, we believe, was, in part, due to the fact that consent forms were kept at the front desk (the survey return site) and not with the surveys themselves.

The respondent pool consisted of graduate and undergraduate students, faculty and staff members, and a few visitors. Respondents were of either sex, with or without children, and from the ages of 26 to 55.

A few trends were definitely visible throughout the data. Of the respondents, the majority were female faculty members or grad students, between the ages of 31 and 55. Most of these residents were also found to have children living with them.

We were interested to see this statistic as we had placed a lot of emphasis on reaching the younger generation in our awareness literature.

Furthermore, we found that while less than half of the respondents actually compost themselves, nearly all involved had at least a passing knowledge of the composting process. We were, however, encouraged by the fact that people, not currently composting, did express a keen interest in doing so; were the facilities made more accessible. Please see Appendix A-2 for survey tabulations.

Conclusion

Composting is an important way to promote sustainability in a community. Composting the majority of waste produced at UBC and its residences helps reduce fuel emissions and energy costs and thus is better for the environment. Composting could also help the campus save a significant amount of money from transporting waste to landfills.

As a group, we believe that education and awareness in composting could contribute to the success of the composting program at UBC. We have a mutual vision that Acadia Park and University Apartments are excellent places to make progression in the composting program because there is an opportunity to target a wide range of age groups. The young generation could very well guide the concept of campus sustainability now and in the future.

Since barriers against composting still exist, promoting awareness and education should be the major focus at the current stage. In order to initiate behavioural change, exciting new projects involving environmental sustainability must be used to generate an enthusiasm in composting and other sustainable behaviours.

Recommendations

The UBC Food Systems Project hopes to increase awareness of on-campus composting through public education, to carry out feasible programs to promote composting, and to eventually establish composting as a regular waste disposal practice on campus. Since this is an ongoing, long-term project, we are pleased to have created some suggestions based upon our research findings and personal experiences in carrying out our portion of the project. We are hopeful that our suggestions will be helpful to departments and community groups involved in Acadia Park and University Apartments as well as to students that will continue with this work in the future.

➤ **Recommendations for the UBC Housing Department:**

1. Since there are many barriers in setting up big projects, as mentioned in the Findings section, the major focus in the promotion of environmental sustainability at the current and near-future stage should be to increase awareness and education among UBC campus residents.
2. When new residents move in to Acadia or University Apartments it would be helpful to have each unit be given a composting information package. This package would include a general introduction to the theory and benefits of composting, composting programs in the residence, and pertinent practical information, such as locations and proper procedures for composting.
3. Once it has been shown that awareness and interest in composting has improved (demonstrated through further surveys or other research methods) the number of composting bins throughout the residence could be increased to facilitate the regular practice of composting by residents who live further from the community garden collection bin.

4. Put posters in public areas where new composting bins are introduced to educate the residents about composting and encourage use of these new facilities. Signs by the side of garbage and recycling bins to inform what waste is suitable for composting would also be helpful.
 5. “Community Assistants” could implement more programs related to sustainable waste disposal. For example, these programs could be interactive composting activities that target children in the residence (see Appendix A-5).
- Recommendations for AGSC 450 students in the 2007-2008 academic year:
1. When following up the project at Acadia Park and University Apartments, one should continue to work with Carol Young, the Residence Life Manager. She is an avid supporter of this project and may be a useful ally for years to come.
 2. Conduct a second in-depth survey to evaluate the awareness of composting in the residence to see whether the area is ready for a more aggressive composting program.

References

- Tilman, D. (1996). Biodiversity: Population versus Ecosystem Stability. *Ecology*, 77: 350-363.
- Underwood, Chris, E. (2006). Speech Presented at Vancouver's Urban Agriculture Showcase Tour - June 24, 2006. United Nations World Urban Forum 2006. City of Vancouver Compost Demonstration Garden. Retrieved March 31, 2007, from <http://www.cityfarmer.org/WUF2006SolidWaste.html>.

Appendix

A1 – Survey

Composting at Acadia Park

This survey is being conducted by students from the Faculty of Land and Food Systems in conjunction with UBC Housing and Conferences, in order to provide a basis for the assessment of composting at Acadia Park and University Apartments. Students in the Faculty of Land and Food Systems are currently working towards improving the sustainability of the UBC food system, including the goal of increasing awareness and participation in composting on campus. By filling out this survey you can help us reach this goal!

Please return this completed survey to the front desk by **April 8, 2007** to be entered into a draw to win a **Safeway gift certificate!**

1. Are you a: (please check one)

UBC Undergraduate Student

UBC Faculty Member UBC Staff

UBC Graduate Student

Other: _____

2. Please circle what age category you are in:

18 & under

19-25

26-30

31-55

56+

Please indicate your gender: _____

3. Are there children living in your home? (circle one)

i. No

ii. Yes. Their ages are: _____

4. Do you know what composting is? (circle one)

i. Yes (go to Question 5)

ii. No. **Let us explain! Please turn survey over.**

5. Do you compost?

i. Yes (go to Question 6)

ii. No (go to Question 7)

6. What do you compost?

7. Would you compost if the facilities were available?
- i. Yes (go to Question 8)
 - ii. No (go to Question 9)

8. What would encourage you to begin composting?

9. Why do you not compost?

Thank you for your participation!

Back Page:

Composting is the process of decomposing organic matter (for example fruit peels, coffee grounds, egg shells), in the presence of oxygen, moisture and microbes. This mixture becomes nutrient rich humus or compost (a soil-like entity) that can be used in the Acadia community garden and elsewhere on campus.

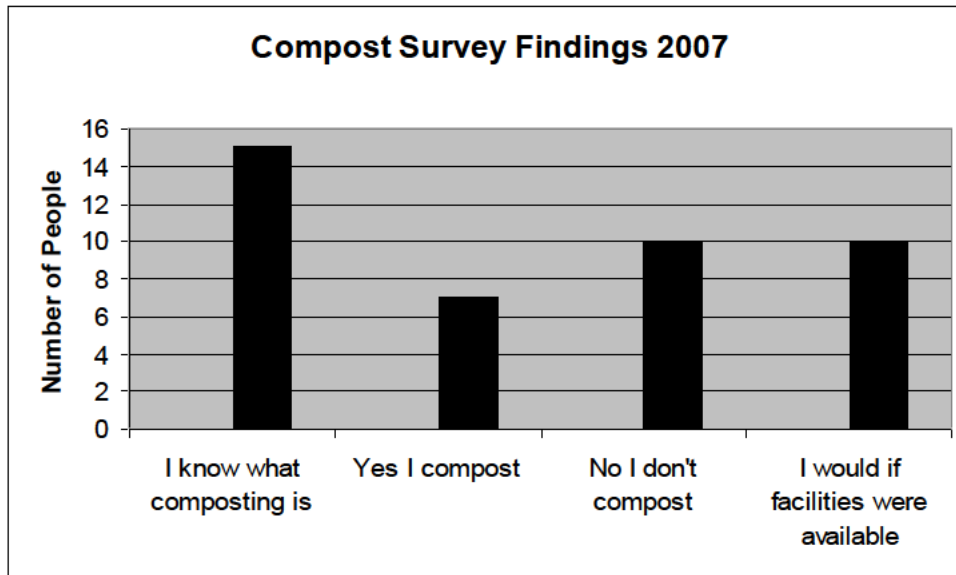
1. Would you compost if the facilities were available?
 - i. Yes (go to Question 2)
 - ii. No (go to Question 3)

2. What would encourage you to begin composting?

3. Why would you not compost?

Thank you for your participation!

A2 – Survey Findings Chart



A3 - Adult newsletter insert

Information researched and provided by students of AgSci 450 in the Faculty of Land and Food Systems. For more information please contact: Liska Richer (course sessional instructor), Tel: [REDACTED]

A Community without Waste

Dear Residents,

As you may know waste management is a growing concern for the UBC community. In fact, UBC produces over 12 tonnes of garbage a day. That's enough to make anyone feel uneasy.

So, what can you do to help?

Easy — you can help divert waste from the landfill. Whether recycling or composting — a lot can be done by the individual and family.

What is composting?

While most people have heard of recycling, composting has not enjoyed the same exposure. As you may or may not know, composting is a process by which organic refuse is transformed — by way of microorganisms and other earth inhabitants — into soil. This soil can then be used to maintain campus gardens and lands alike.

Did you know we can reduce UBC's waste by up to 35% through composting?!

Is it a lot of work?

It's true, it does take a little effort (Not That Much!) but the results are worth it.

So, how can I get started?

Your involvement can be as simple as taking your family's meal leftovers to the in-vessel compost collecting bins found in your community garden — yes, we have a community garden and a composting area in it!! Or, you can even start your own compost closer to your home. UBC Waste Management offers a free composting workshop and personal consultation. For a fun activity for the whole family you can attend a Worm Composting Workshop and bring home your own special Red Wiggler worms. Then watch as these worms turn your refuse into soil. Call Waste Management at 822-9456 to inquire.

Get the whole family involved — it's their future too!

Some Composting Do's and Don'ts!



Do's	Don'ts
Cooked food waste	Juice boxes, milk cartons
Meat and bones	Plastic bags
Grains, bread, pasta	Styrofoam
Coffee filters, grounds, tea bags	Glass, wood, sand, metal
Egg shells, raw fruit and veggie scraps	Wooden chopsticks
Dairy products (no containers)	Biosolids
Paper towels, napkins, cups, plates	Plastic cutlery

Adapted from UBC Waste Management website.

A4 - Kids newsletter insert

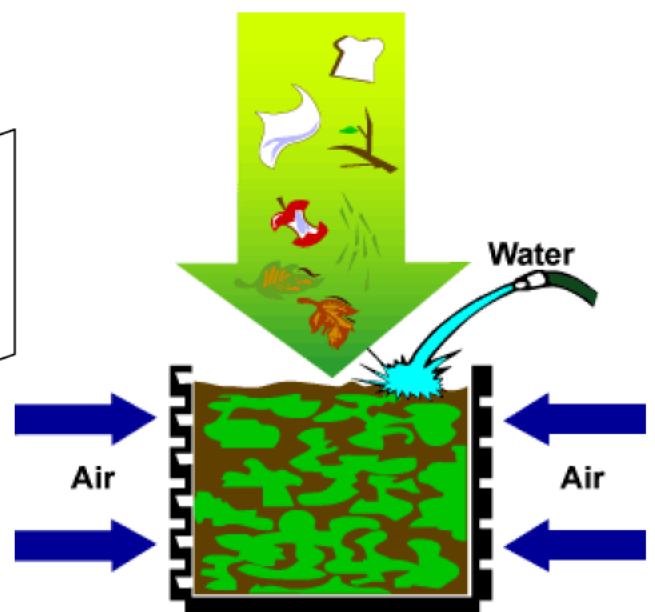
Information researched and provided by students of AgSci 450 in the Faculty of Land and Food Systems. For more information please contact: Liska Richer (course sessional instructor), Tel: [REDACTED]

What is Composting?



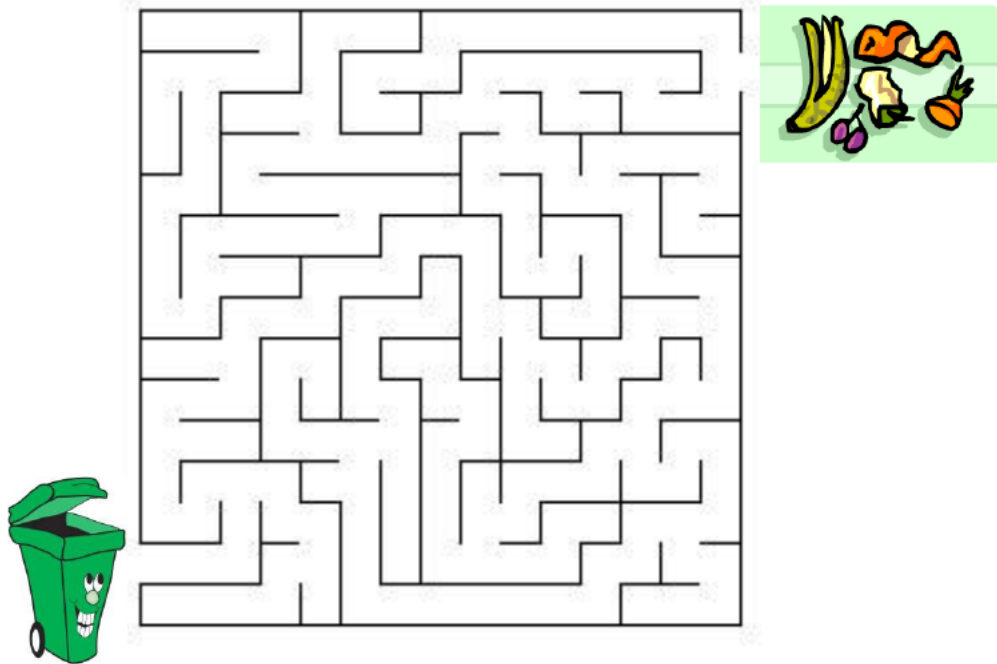
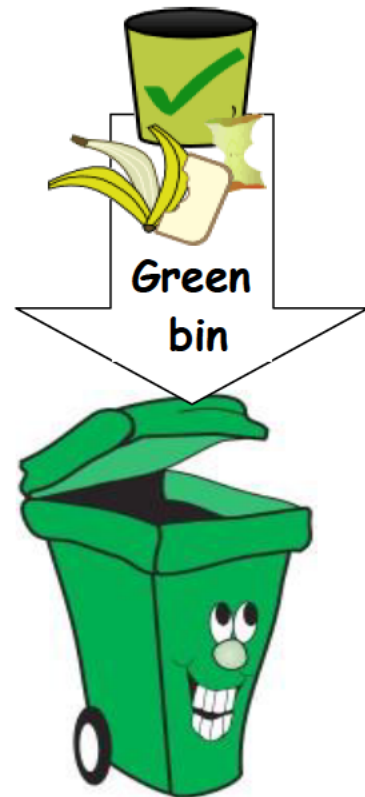
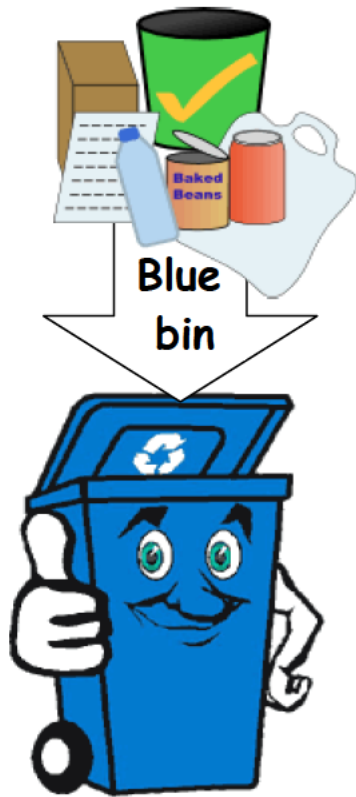
Leftover food scraps can be recycled back into the soil and be used to nourish plants and trees.

Worms can turn our old food into plant food with the help of water and air in the soil.



Bottles
Cans
Paper
Plastic

Leftover food scraps
Meat & bones
Grass & leaves
Paper cups/plates/napkins



A5 - Community Assistant Resource - Kids Programming

Introduction

What is composting?

What is recycling?

Why do we compost and recycle?

Short discussion

Go for a walk to the compost bin – take a look inside.

Talk about what can be recycled or composted.

Game

Split into teams (size dependent upon group), have a “sorting station” set across short space (out on field, in gym, etc.) from where kids sitting in a line, at front of line is a box with various items (i.e. laminated pictures of) that they pick from box and run across one at a time to put in appropriate compartment of station

Increase difficulty for older kids by taping items onto small balls, boxes, etc. to make it more like basketball. Decrease difficulty for younger kids by having pictures of what goes in each compartment above them so it’s more of a matching game.

First team to empty their box wins

Go through sorting station compartments to check for correct disposal.