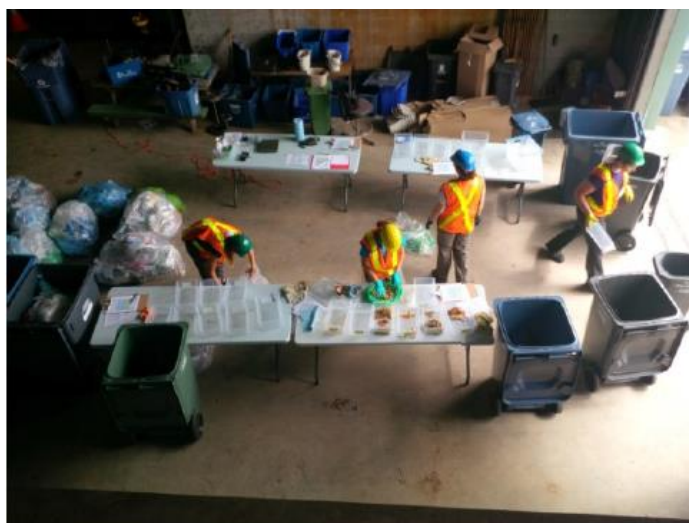




Overview

In the summer of 2014 we conducted food waste audits of residential households as part of the University of Guelph Food Waste Project. These audits represented another component of our ongoing collaboration with the City of Guelph. We collected curbside waste over two weeks from households selected based on previous participation in a waste attitudes survey. This allows us to analyze the relationship between attitudes and beliefs and actual waste production. Two weeks of collection provided two samples for the organic waste stream and one each from the recycling and garbage streams.



Waste Volumes

The average household wasted 4.51 kg of food per week.

- 3.96 kg in organic stream
- 0.41 kg in garbage stream (0.82 kg in the garbage cart per biweekly collection)
- 0.14 kg in recycling stream (0.28 in recycling cart per biweekly collection)

The organics stream also contains an average of 1.64 kg of non-food organics per week. There was also an average of 0.96 kg of non-food organics (eligible for the organics stream) in the garbage stream per biweekly collection. Non-food organics include material like pet litter, plant material and soil.

Avoidable vs Unavoidable

The food waste was sorted into three categories: avoidable, possibly avoidable and unavoidable. Avoidable was defined as product that would have been possible to eat under normal circumstances. It is discarded for a number of reasons: it has gone bad, it is no longer desired

and others. Possibly avoidable is defined as food that some people would eat but others perhaps not. This includes things like potato or apple peels. Unavoidable food wastes includes things such as bones and trim from meat, apple cores and the like.

A total of 53% of the food waste (2.30 kg per week) was avoidable and another 11% (0.49 kg) is possibly avoidable. This means that almost two thirds (64%) of the food waste was avoidable. The remaining 36% (1.57 kg) was considered unavoidable.

Fruits and Vegetables

Fruits and vegetables comprised 60% of the total food waste – 51% of the avoidable, 87% of the possibly avoidable and 70% of the unavoidable totals respectively. Within fruits and vegetables 43% was avoidable, 16% possibly avoidable and 41% unavoidable. It is worth noting that there is very little correlation within households between avoidable and unavoidable waste.

This suggests that simply buying fresh fruits and vegetables does not cause waste. The low correlation implies that some people buy fruits and vegetables and end up throwing them out and others just have the associated unavoidable waste. Over 80% of households generate fruit and vegetable waste – both avoidable and unavoidable.



Fruit and vegetable waste in the garbage stream is more likely to be avoidable. 68% of the waste in the garbage stream is avoidable. This is true in all of the categories with the exception of “other.” A third of households had some avoidable fruit and vegetable waste in the garbage stream.



Other Categories

Bread and cereals were the second most common food waste item representing 13% of the total at 0.59 kg per week. This is almost entirely avoidable food waste. This waste was also relatively high frequency with over 70% of houses generating bread and cereal waste.

Meat and fish (0.2 kg/week), milk cheese and eggs (0.36 kg/week) and fats and sugars (0.05 kg/wk) represented a low percentage of the total food generated. The “other” category represented the remaining 0.41 kg per week. A large component of “other” was coffee grounds which also due to single serving “pods” had a higher proportion of the category in the garbage stream than the previously mentioned categories. This is especially unfortunate as the pods are recyclable and the grounds are organic when the materials are separated. We often found that the whole pod was placed in the garbage.

Our residential food waste work continues. For more details on this and other studies, please visit our blog at guelphfoodwaste.com or contact us at food.waste@uoguelph.ca

FOOD WASTE AUDIT

Materials needed:

- Clear garbage bags/bins
- Gloves

Food waste collection:

- Observe weekly household waste through clear garbage bags/bins
- Record any food waste according to the Composition Audit Guidelines (see following page)
- Classify what you have found into avoidable/unavoidable categories

Analysis of data:

- Record your findings according to the Composition Audit Guidelines
- Discuss your findings with your family/class. Why might these types of waste be a concern? What benefits can you see from avoiding these types of waste?
- Generate ideas on the best ways to deal with the issue of food waste at home
- Reflect and develop personal goals on how to reduce food waste in their own environment

Composition Audit

This is a sample composition audit to demonstrate how one may be done in the classroom. For composite meals, try to separate out as best as possible based on primary ingredient.

Food Group	Definition	Avoidable?
Bread & cereals	<ul style="list-style-type: none"> - Bread, crackers, breadsticks, dough, dumplings, morning goods, pastry, other bakery - Unlike WRAP, we will include sweet pastries here (cakes, desserts), and carb-based snacks (popcorn, chips, etc.) - Cereal, flour, pasta, rice, other carb grains (e.g. couscous, tapioca) 	<ul style="list-style-type: none"> - Bread crusts and ends are considered to be possibly avoidable as some people choose not to eat them; all other waste in this category is considered avoidable - Staples/cereals: All food waste in this category is edible and is therefore considered as avoidable
Meat & fish	<ul style="list-style-type: none"> - "... Carcass meats and processed meats, and all fish and shellfish" 	<ul style="list-style-type: none"> - Fat, skin, rind and crackling are considered possibly avoidable. Bones, fish heads, guts, mussel shells and similar material considered unavoidable
Milk, cheese, & eggs	<ul style="list-style-type: none"> - Milk, cheese, cream, egg, yogurt, other dairy 	<ul style="list-style-type: none"> - Egg shells are the only item within the category to be considered unavoidable. All other food waste is considered avoidable, other than small quantities of cheese rind that is considered as possibly avoidable.
Fruit & vegetables	<ul style="list-style-type: none"> - Fresh or processed - "Notably, the group contains some food types not found in fresh form, which are baked beans, coleslaw, hummus, mixed non-leafy salad, vegetable-base sandwich spread, and meat substitute products such as Quom and soya mince." - Nuts (unlike WRAP) 	<ul style="list-style-type: none"> - Considered avoidable waste if the vast majority of people would consider it edible - Possibly avoidable food includes fruit skins that some people may choose to eat but others do not, for example, potato/cucumber/apple/pear skin - Unavoidable waste is that which the vast majority of people would consider inedible, for example, onion skin, hard vegetable peel (e.g. swede) and sweetcorn cobs.... Apple cores, banana skin, peel from citrus fruit, melons and pineapple

Fats & sugars	<ul style="list-style-type: none"> - Oil, meat fat, butter - Confectionary (candy) sugar 	<ul style="list-style-type: none"> - Oils and fats are assumed to be avoidable unless they were recorded as having been “used”, in which case they are.... Possibly avoidable
Other (food)	<ul style="list-style-type: none"> - Coffee grounds, condiments, herbs/spices, baby food, unidentifiable 	<ul style="list-style-type: none"> - Consider the edibility (e.g. herb stalks and garlic skins: non-avoidable; baby food: possibly avoidable, etc.)
Non-food	<ul style="list-style-type: none"> - Kitty litter, pet food or feces, lawn waste, etc. 	<ul style="list-style-type: none"> - N/A (removed from calculations of avoidability)