

Food Waste: It's More Than Just Trash Talk

Guelph's Food Waste Research Project



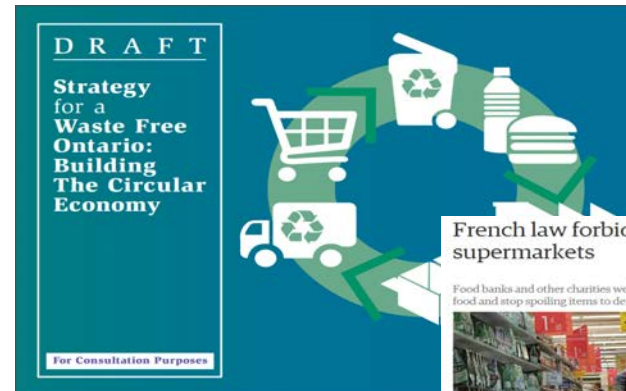
**Recycling Council of Alberta
"League of Extraordinary Recyclers – Knocking out Waste"
September 29, 2016**

Why Food Waste Matters

- It is estimated that the world wastes 1.3 billion tonnes of food annually, at a cost of \$750 billion (FAO 2013)
- Canadians waste \$27 billion of food annually:
 - 40% of all food produced, and 2% of our GDP and half of this waste happens in hhlds (Gooch et al 2010)
 - Works out to about \$28/week/hhld
- Food wasting has many environmental, economic and social issues associated with this food loss

Policy Context

- Changes in federal and provincial policies
- Tax incentives
- Proposed Bill C – to establish a national strategy to reduce food waste in Canada



French law forbids food waste by supermarkets

Food banks and other charities welcome law making large shops donate unsold food and stop spoiling items to deter foragers



France wastes 10 tonnes of food annually. Supermarket chain Carrefour, above, agreed the law would help increase food donations. Photograph: Gary Calton for the Observer

France has become the first country in the world to ban supermarkets from throwing away or destroying unsold food, forcing them instead to donate it to charities and food banks.

Southern Ontario Food Collaborative Battles Food Waste in York Region

Friday, January 20, 2018



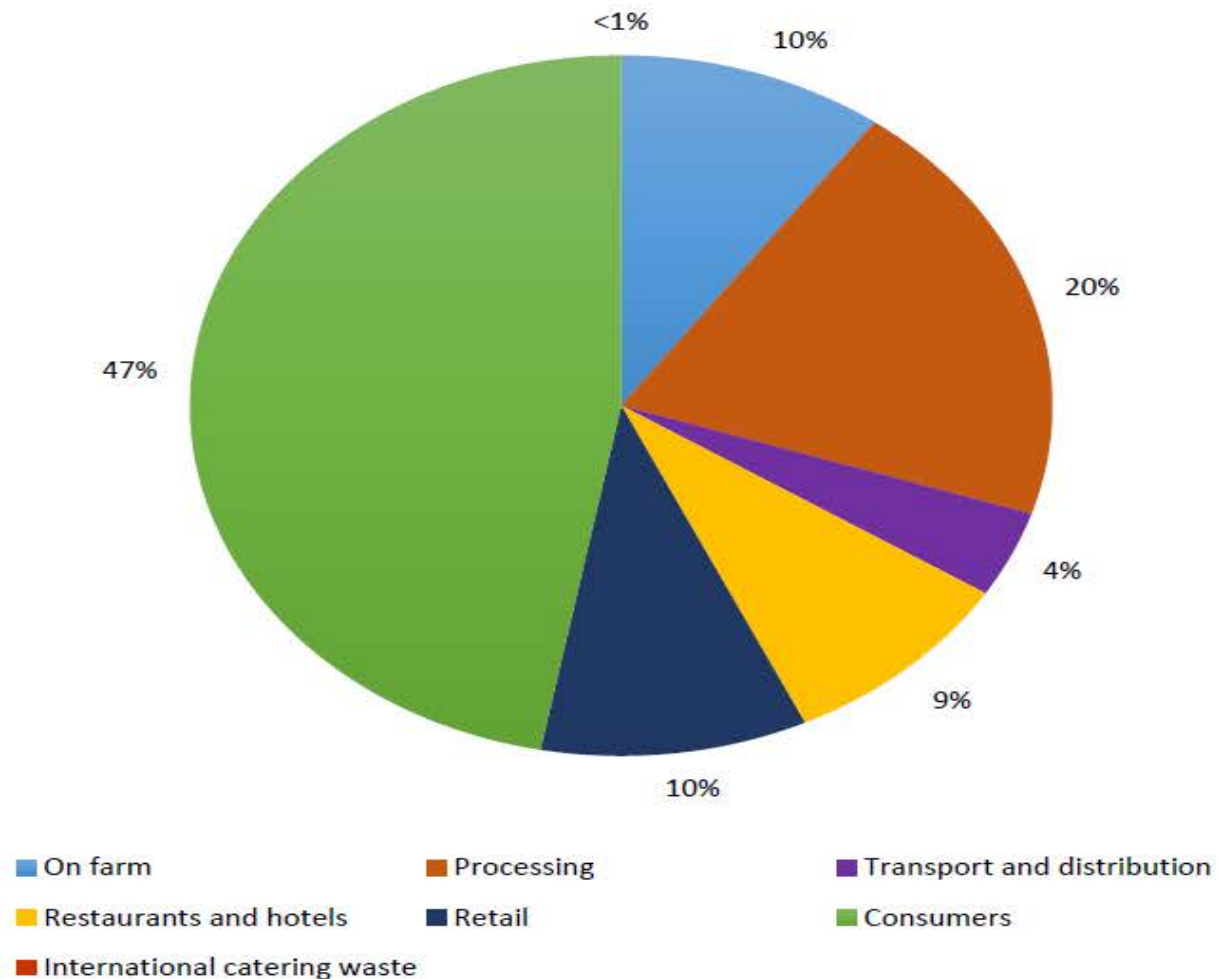
Canada united in the achievement of zero waste, now and for future generations

Tax incentive to prevent food waste

Food Waste in Canada

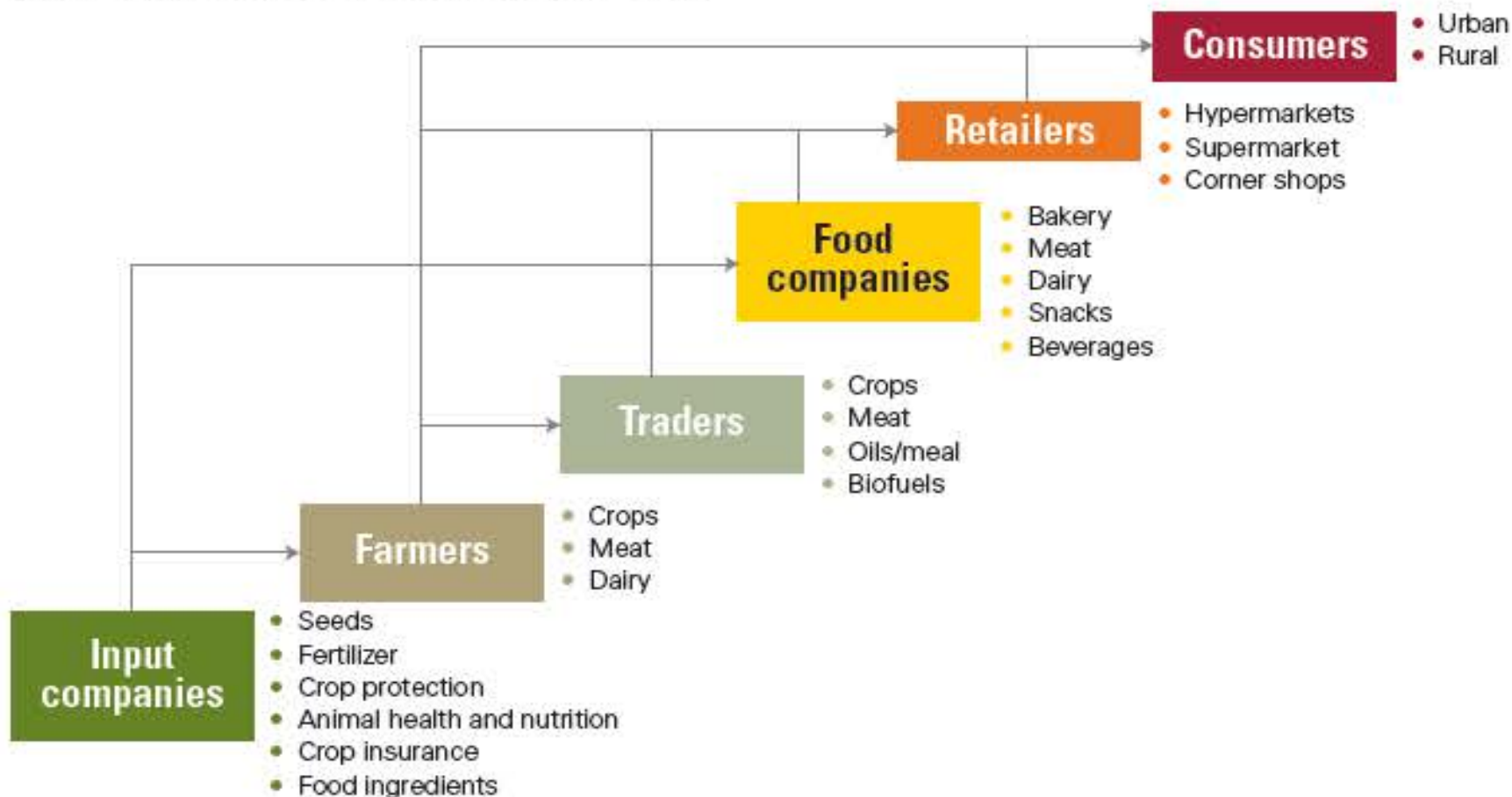
Gooch et
al 2014

Where Food Waste Occurs Through Canada's
Food Value Chain (% Distribution)

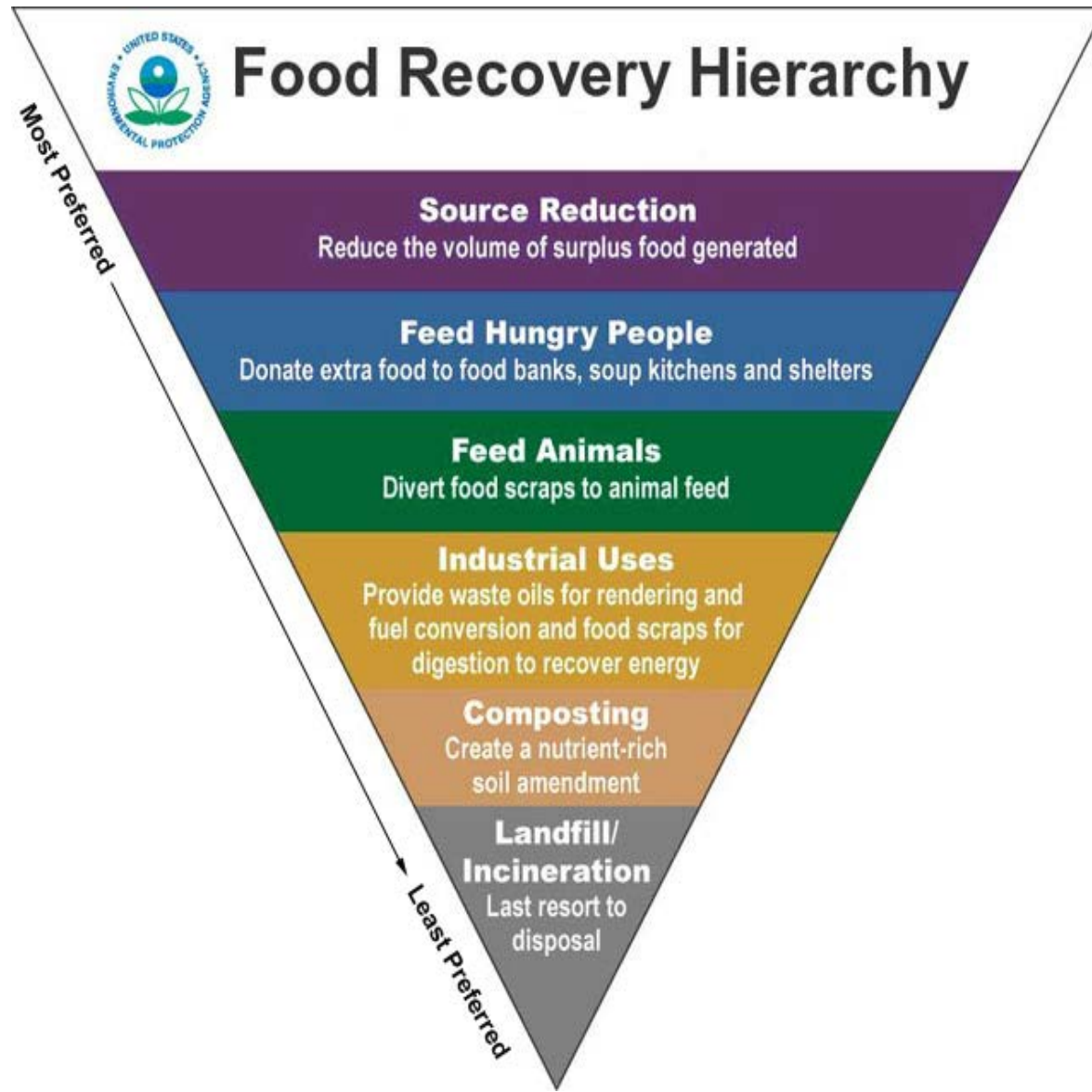


The Food Value Chain

Figure 1: The agriculture and food value chain



Innovating to Reduce Food Waste



Local Food Waste Research



- hshd surveys
- curbside weights
- audits



Limitations of Study

**Keep Good Food Out of Your Garbage Pail and Kitchen Sink
Don't Feed High-Priced Human Food to Hogs or Chickens**

WASTE NO FOOD!

HOUSEHOLD WASTE ABOUT 700 MILLION DOLLARS

"For partial immediate relief, every individual and community should consider carefully the matter of food conservation and the limitation of waste. As a nation we seem to have a disinclination of economizing. In many homes there is a strong feeling that it is 'only decent' to provide more food than will be eaten and that it is degrading to ration closely. The experts of the Department of Agriculture report to us that the dietary studies made by them point to an annual food waste of about \$700,000,000. Of course, the waste in families of very limited means is slight, but in the families of moderate and ample means the waste is considerable. Even if the national waste were reduced by half, the waste would still be enormous. The food waste in the household, the experts assert, results in large measure from bad preparation and bad cooking, from improper care and handling, and, in well-to-do families, from serving an undue number of courses and an overabundant supply and failing to serve and utilize the food not consumed. As an instance of improper handling, it is disclosed that in the preparation of potatoes 28 per cent of the edible portion in many cases is discarded."—Journal of Agriculture, March 1, 1932.

FOOD IS WASTED

When anything edible is allowed to go to the garbage pail or allowed to spoil for lack of proper handling

FOOD IS WASTED
When too much is served at a meal. Uneaten portions are left on the plate and later thrown into the garbage pail. Learn to know the needs of your family and serve each no more than you think he will want.
When too much is prepared for a meal. Unserved portions are likely to be thrown into the garbage pail or allowed to spoil. Many housekeepers do not know how to use left-over foods to make appetizing dishes.

FOOD IS WASTED
When burned or spoiled in cooking. Improperly prepared or poorly seasoned food will be left on the table and probably wasted. Buy food wisely and then prepare it carefully.
When handled carelessly. Buy clean food, keep it clean until used, and be neat in all details of cooking and serving. This lessens waste and is a valuable health measure as well.

FOOD IS WASTED

When we eat more than our bodies need for growth and repair and to supply energy for our work

Overeating tends to poor health and fat instead of brown, makes us sluggish and indolent instead of energetic and successful. Eat enough and no more. Eat for physical and mental efficiency.

 **DEMONSTRATE THRIFT IN YOUR HOME**
MAKE SAVING, RATHER THAN SPENDING, YOUR SOCIAL STANDARD 

Begin to save to-day. For practical advice on how to feed your family efficiently and make the most of the food you buy or raise write to-day to your State Agricultural College, to your county agent, or to the

U. S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

- Focus of waste put out for collection
- Other materials in the waste stream
- Small survey size

Food Waste Surveys

- Door-to-door surveys conducted in 2013 and 2014
- Asked about curbside behaviours and attitudes towards food waste



Food Waste Behaviours & Beliefs



- Family lifestyle and large hhlds
- Food awareness
- Waste awareness
- Convenience lifestyles

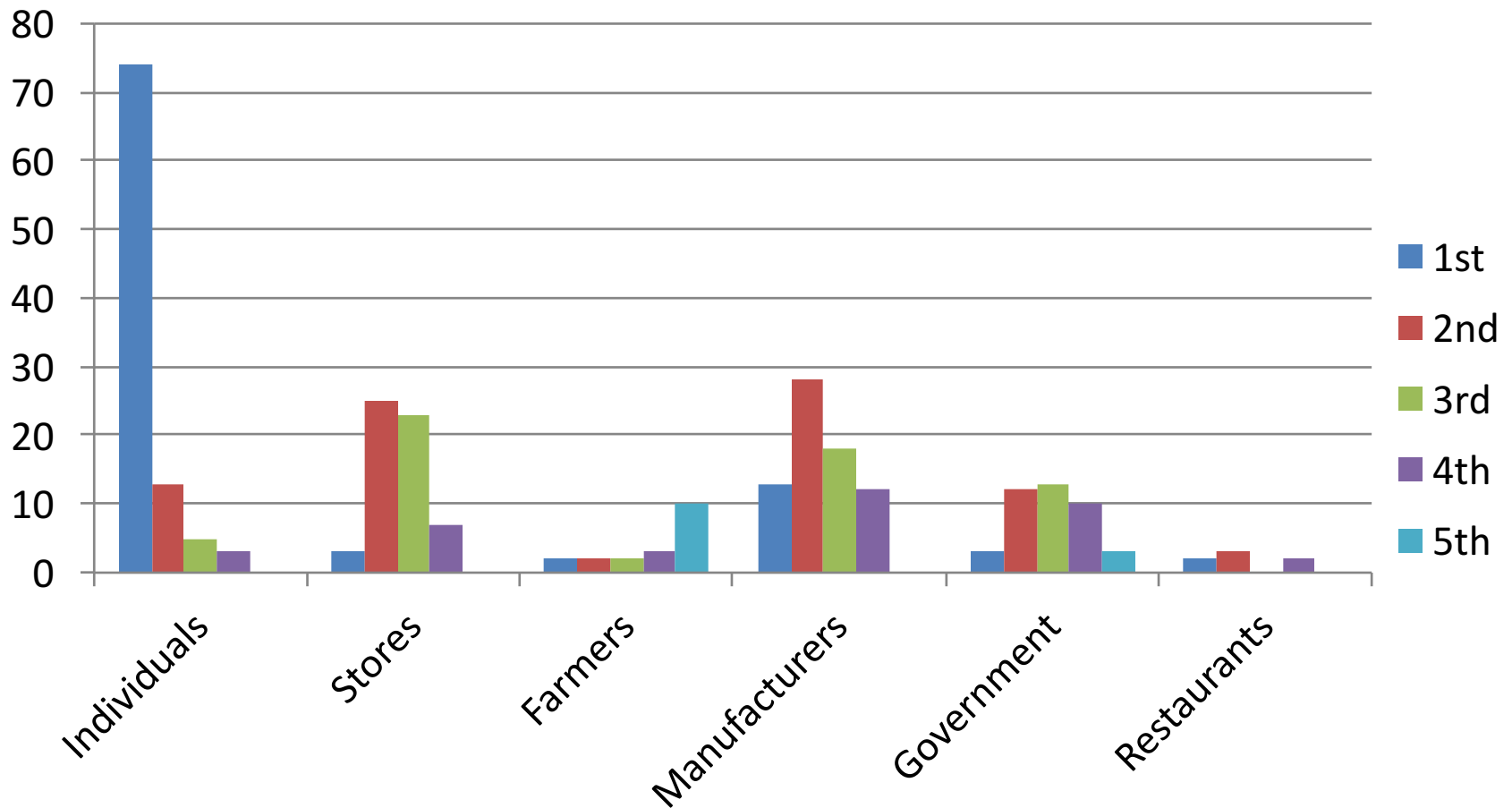
Household Waste Management Behaviours

1 How do you dispose of food waste in your home?

| | | % Yes | % No |
|---|-----------------------------------|-------|------|
| a | Green Bag | 100 | 0 |
| b | Garbage Bag | 39 | 61 |
| c | Backyard/indoor composter | 13 | 87 |
| d | Garburator/sewage system | 12 | 88 |
| e | Feed domestic/wild animals | 20 | 80 |
| f | Take to landfill/transfer station | 15 | 85 |

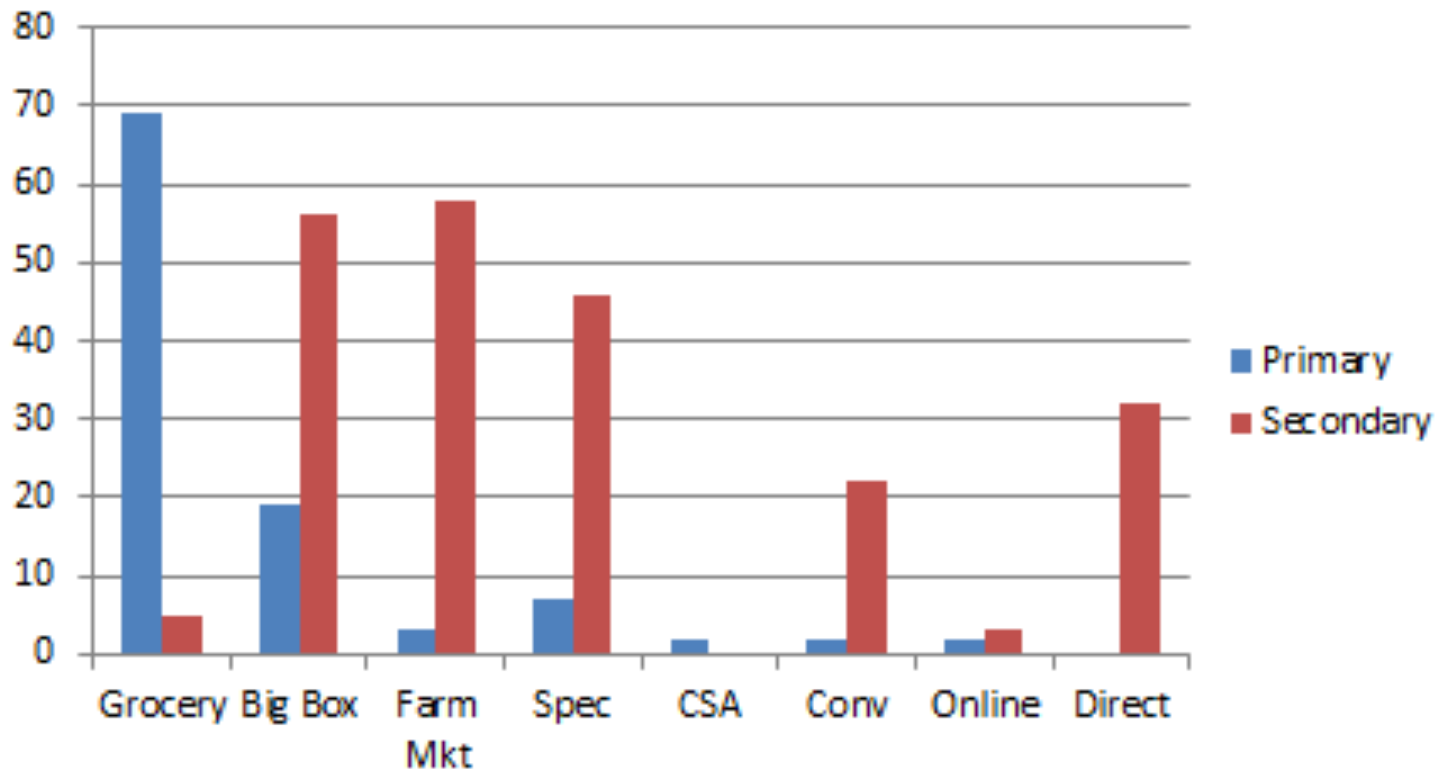
Survey Answers

Who is responsible for food waste?



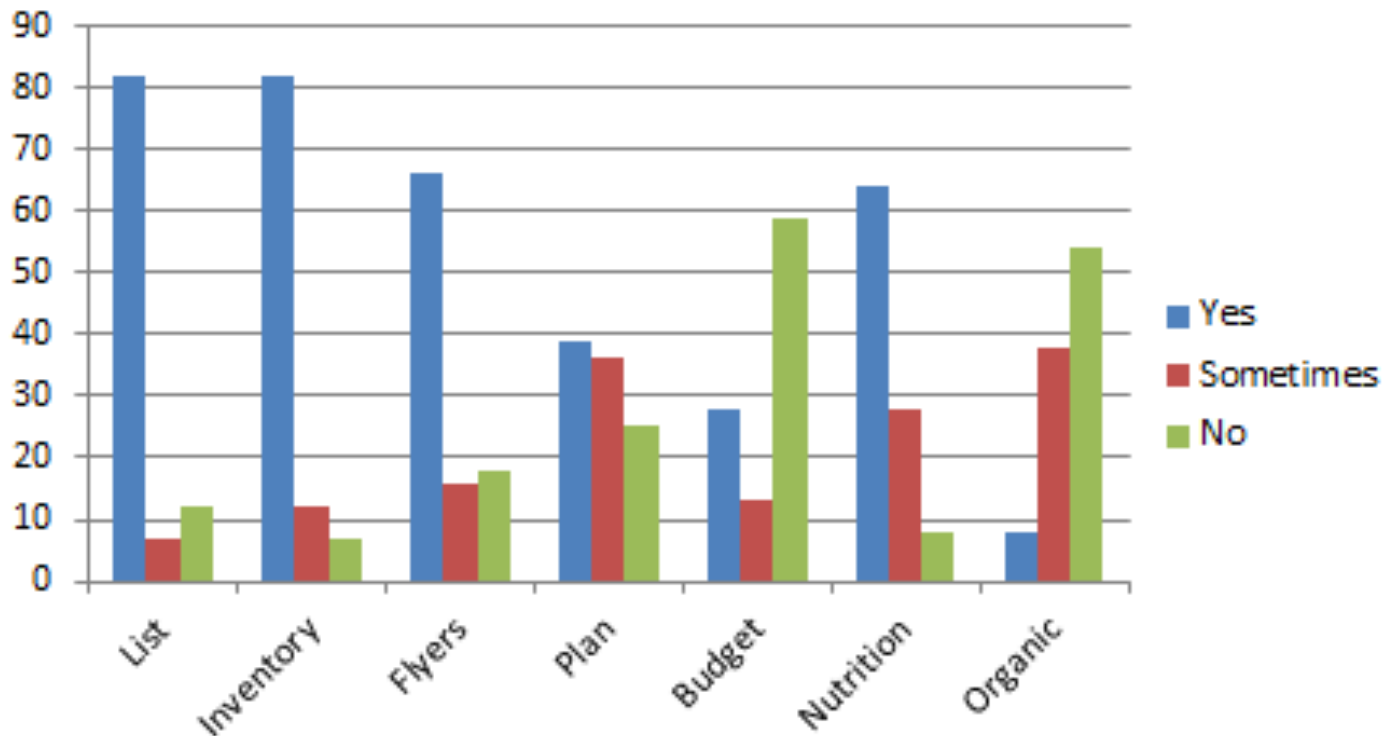
Shopping Habits – Primary Food

Primary Shop



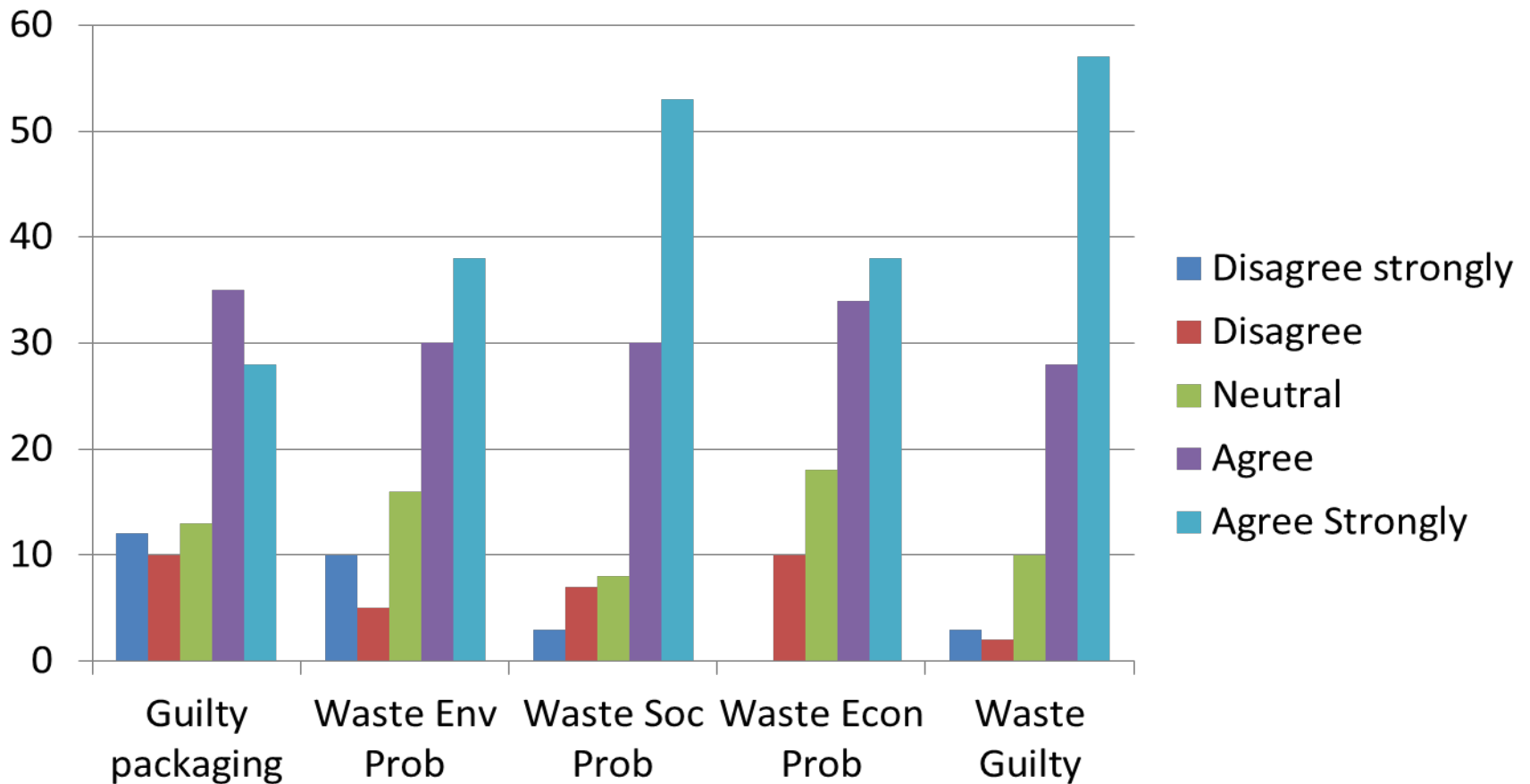
Shopping Habits – Behaviours

Shopping



Feelings About Food Waste

Food Waste



Why Do We Waste So Much Food?



- Convenience lifestyles
- People not waste aware
- Best before/Worst after
- Guilt – the gift that keeps on giving



Food Waste Protocol

Modified WRAP - UK

Fruit and vegetables

- 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-based sandwich spread, and meat substitute products such as Quorn and soya mince.”
 - Nuts (unlike WRAP)
- “...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 for example potato and cucumber skin... apple and 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 sweet corn cobs... apple cores, banana skin, peel from citrus fruit, melons and pineapple.”

How Much Food Do We Waste?

- On average, in 2015, households in Guelph produce 5.58 kg of food waste per week
- 36% was unavoidable (trim, peels, inedible bits)
- 64% was avoidable or possibly avoidable
- 53% of fruit and vegetable waste was avoidable



Data From 2015



- 63% of the total waste was fruits and veg
- 14% bread and cereals
- 9% meat and fish
- 8% milk/cheese/eggs
- Less than 1% fats and sugars – small volume
- 6% other (coffee, unidentifiables)

Reducing Household Food Waste

- We learned that people who were 'waste aware' or 'food aware' wasted less food
- We need to think about food waste in order to avoid it

Targeted campaign may encourage hhlds to:

- Plan weekly meals and shop with a list
- Prioritize eating leftovers and foods that are close to spoiling
- Cook, then freeze individual portions
- Re-skill; cook with friends/family; etc.

What Else is Happening in ON

- Food waste reduction campaigns are underway in Peel Region; York Region; Toronto
- ON Municipal Waste Association has a Food Waste Reduction Working Group
- ON Food Collaborative – Metrics Working Group
- Food Collaborative is considering franchising “Love Food – Hate Waste” campaign

New research questions...

- How do changes to municipal organic waste collection systems influence hhld food waste production?
- Do demographically different neighbourhoods exhibit different food wasting behaviours/beliefs?
- Does the municipal organic waste stream enable guilt-free food wasting at the hhld level?

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UoG Blog: guelphfoodwaste.com