Reducing Wasted Food, While Sustaining Food Production

North American Workshop on Food Waste Reduction and Recovery

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I thank the First Nations people across Ontario.

I appreciate that they cared for the land in this region of Earth, prior to our arrival.
Production > Food Sales > Consumption

Goal - Sustain Sufficient Production to = Adequate, Healthy Consumption
Plan A for 2050

• 9 - 10 billion people (30 – 40% increase)
• In developing countries, average incomes rise, consume more meat and richer foods
• Thus increase food production by 70 – 100%
Plan B for 2050

- More and improved education for girls and women in developing countries with goal of < 9 billion people
- **Reduce** wasted food (now 40% in Canada)
- Eat less meat (higher quality), more pulses and edible insects

https://meetingplaceorganicfarm.ca

Spicy cricket fritters
http://entomofarms.com/
1 Billion
The number of extra people that could be fed if we globally applied the best current methods to reduce food waste.

$31 Billion
Value of food waste in Canada, in 2014
Gooch and Felfel. 2014. $27 BILLION” REVISITED, THE COST OF CANADA’S ANNUAL FOOD WASTE. Value Chain Mgmt Intern
U of Guelph Food Waste Audit

• Unavoidable (36%) – not edible under normal circumstances (e.g. apple cores, melon rinds)

• Avoidable (53%) – thrown away prior to disposal and still edible (e.g. heel of bread, half a roast) + 11% possibly avoidable
Principles of Addressing Wasted Food

1) REDUCTION
2) Feed people with co-products rather than wasting this potential.
3) Feed pets, livestock (incl insects)
4) Anaerobic digestion (energy and nutrients)
5) Bio-diesel (energy) or compost (nutrients)
6) Divert from Landfill (after all else)
By reducing wasted food and not having to produce excess food, we all save:

- CO$_2$, CH$_4$, N$_2$O emissions
- Energy
- Water
- Biodiversity
- Soil quality
- Labour
- Money
- Future capacity
- Respect

Photo by K. Howe
Consumers Could Change

- Households in Canada spend $153/wk on food. Assuming 20% of food is wasted in households, then tossing cost is $31/wk.
- Organic shoppers spend $27/wk more than those who buy non-O. Stop wasting, then buy organic, save $4/wk.

www.guelphfoodwaste.com
Wasted Food Survey
www.guelphfoodwaste.com

• Most feel guilty about wasting food and if feel more guilty, then waste less food.

• People with more food awareness, waste less food and most say wasted food is a social issue, more than an economic or environmental issue.
Identifying Waste

Most common criterion is appearance, followed by smell and best-before date.

Those who use more criteria to determine what is no longer edible tend to waste more food.
Institutional Wasted Food

• 20% of edible food, wasted in restaurants (Engstrom and Carlsson-Kanyama, 2004)

• Plate waste 11% in restaurant
  Fries with Clubhouse (21%) and with
  Pulled Pork (28%*)
  Steamed vegetables, salads (0%)

• > 410 g threshold, waste more
  (von Massow and McAdams, 2014)

• 514 lbs waste per meal with trays vs
  335 “ “ “ “ “ “ without trays
  in a university cafeteria
  (Sarjahani et al. 2009)
From Many to Few and Back Again

- 350,000 plant species, 195,000 flowering plants, most have edible parts useful to humans
- < 300 plant species for food; only 17 species provide 90% human food
- Grow diverse crop species, spread risk as climate changes, accept seasonal food, improve health
Attitude of Gratitude

Take moments to be thankful, especially for good land and food. Appreciate when we have enough and treasure it.

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