Characterization and Management of Food Waste in North America

Wasted Food Rescue and Recovery

Source: Greater Vancouver Food Bank, 2015
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Source: Feeding the 5000, 2016
Definition – Wasted Food Rescue and Recovery

- **Wasted food rescue and recovery**
  Actions to recover safe and nutritious food

  - **First** - for *human consumption*

  ... through receiving, storing or processing food, with or without payment, that would otherwise be discarded or wasted.

  - **Second** - for *animal feed*, which can include food scraps

Source: Greater Vancouver Food Bank, 2015
Building the Case for Wasted Food Rescue and Recovery

• Investing in wasted food rescue and recovery strategies has potential benefits for stakeholders across the food supply chain

• Case by stakeholder type
  ▪ **Industry** (Post-Harvest Food Production and Processors)
    Potential to unlock new markets and mitigate disposal costs from recovered food
  ▪ **Businesses** (Distribution, Foodservice and Retail)
    Economic benefit; socially responsible business practices
  ▪ **Government**
    Increase economic growth, reduce food waste to landfills, combat food insecurity, and increase resource efficiency to further reduce GHG emissions
  ▪ **Food Rescue Nongovernmental Organizations**
    Offset food procurement costs; use resources more efficiently
Challenges to Wasted Food Rescue and Recovery

- Labor and transport costs of food recovery or gleaning may outweigh financial savings
- Inadequate resources and coordination
- (Perceived) brand risk
- Regulatory obstacles and food safety concerns
- Competing interests between organics recycling vs. recovery
- Concerns regarding quality, nutritional value, and managing less desirable donations and discards

Source: University of Alberta, 2015
6 Approaches to Wasted Food Rescue and Recovery

# Approaches Across the Food Supply Chain

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1. Approach sections pertain to all three countries
Approach 1 – Value-Added Processing

- **Description** – Culled foods and food parts can be used to develop new products; other industrial processing can extend shelf life
- **Trend** – Economically driven by disposal costs, opportunities from increased profitability or resource efficiency
- **Challenge** – Seasonal fluctuations in feedstock
- **Examples**
  - CAN: BC Tree Fruits
  - MEX: Grupomar
  - USA: South Jersey Food Bank
Case Study – Canada: Value-Added Processing

- BC Tree Fruits produces 77 million kilograms of fruit; 20% culled
- Culled fruit usually destined for juicing and animal feed, but these prices are low
- Partnered with Lonetree Cider to make Broken Ladder cider
  - Aims to recover 25% of culled fruit for cider, giving higher-value market for fruit
  - Profits go to processor and growers of the co-operative

Approach 2 – Donation Tax Incentive and Liability Protection

- **Description** – Tax deductions for food donation and liability reduction for food donors
- **Trend** – Tax credits exist in all three countries; liability protection exists in Canada and United States
- **Challenge** – Donation is seen as “low cost disposal,” liability legislation has not been fully tested
- **Examples**
  - CAN: Provincial and Territorial Food Donation Acts
  - MEX: Federal Income Tax
  - USA: Bill Emerson Good Samaritan Food Donation Act

Sources: Washington Post, 2014; Greater Vancouver Food Bank, 2015
Case Study – Canada: Guidelines for Donations

• The **British Columbia Centre for Disease Control** developed two guidelines:
  ▪ Guidelines for Food Distribution Organizations with Grocery or Meal Programs
  ▪ Industry Food Donation Guidelines

• Updated regularly to include effective communication with industry, volunteers and other FDOs to better understand liability of food donations

• Explains and addresses liability of concern to donors to help reduce barriers to donating healthy food

Source: BC Centre for Disease Control, 2015
Approach 3 – Increasing Access to Healthy Food

- **Description** – Preventing food from being wasted by recovering healthy food for food banks, soup kitchens and secondary markets

- **Trend** – Growing efforts to address hunger as part of societal challenges

- **Challenge** – Perishability of fresh nutritious items and related food safety concerns

- **Examples**
  - CAN: Greater Vancouver Food Bank
  - MEX: Sedesol
  - USA: Food Shift

Source: USDA Food Waste Challenge, 2016
Case Study – Mexico: Increasing Access to Healthy Food

• **Alimento para Todos** is an independent food bank that uses volunteers to compile donated food into nutritionally balanced packages for distribution.

• Approximately 2 tonnes of food is recovered on a weekly basis and distributed to 32,000 people in vulnerable communities.

• Access to government support programs would benefit and offset operations expenses.

Source: Alimento para Todos, 2013
Approach 4 – Storage and Transportation Improvements

- **Description** – Sharing infrastructure reduces need for cold storage units across the supply chain including for food recovery
- **Trend** – Centralized food recovery, smaller food banks/kitchens collect from central location
- **Challenges** – Quality control, capital costs
- **Examples**
  - CAN: *Moisson Montréal*
  - USA: Borderlands Food Bank

Source: Moisson Montréal, 2016
Case Study – Canada: Storage and Transportation Improvements

- **Moisson Montréal** is a food recovery hub that collects 60,000 kilograms of meat/month
- 85% of food recovered requires refrigeration
- Partnered with Loblaws to recover meat, Montréal Food Terminal for produce
- Dedicated trucks for freezer transport, manages 200 pickups per week
- Software-based inventory tracking system

Source: Moisson Montréal, 2016
Approach 5 – Online Food Recovery Platforms

• **Description** – Opportunity to recover food from smaller donors, tackling transportation and eliminating intermediaries

• **Trend** – Showing up in various metropolitan areas

• **Challenges** – Scalability, transportation costs, dependability

• **Examples**
  - USA: Food Cowboy

Source: Food Cowboy, 2015
Case Study – US: Online Food Recovery Platforms

• **Food Cowboy** connects donors directly with charity via mobile app
• 400 charities and 200 donors use the mobile app
• Charities accept only what they want and can use, app includes a mutual rating system
• Charges a 15% commission for donators and reinvests in operation, donations to charities for extending operating hours, obtaining donations, and increasing cold storage

Source: Food Cowboy, n.d.
Approach 6 – Feeding Animals

• **Description** – Minimally processed food waste or food scraps are mixed into dry animal feed

• **Trend** – Economically driven to avoid disposal costs

• **Challenge** – High cost of dewatering

• **Examples**
  - CAN: Enterra
  - MEX: La Nueva Viga
  - USA: Quest

Source: Harvard, 2016
Case Study – Mexico: Feeding Animals

- *La Nueva Viga* is the largest fish and seafood market in Mexico
- Excess fish supply is diverted from landfill to make fish flour for animal feed
- Economic benefit
  - Previous cost per month for disposal of fish waste: - US$8,379
  - Current revenue per month for selling fish waste: + US$11,229

Source: La Nueva Viga, 2013
Policy and Education Highlights

• Canada
  ▪ The Government of Canada is developing a national food policy, which is anticipated to include food waste

• Mexico
  ▪ Sedesol created the *Cruzada Nacional Contra el Hambre* (National Crusade Against Hunger), which mentions recovery of edible food along supply chain
  ▪ Semarnat supports food recovery as strategy to divert food from landfills

• United States
  ▪ EPA’s Food Recovery Challenge encourages source reduction, recovery and recycling
  ▪ Federal initiatives to support value-added processing
  ▪ Bill Emerson Good Samaritan Food Donation Act to encourage donation of food, providing liability protection to food donors
  ▪ Internal Revenue Code 170(e)(3) provides enhanced tax deductions to businesses for wholesome food donations
Thank you

Questions?

Tetra Tech Project Team

Source: Market Medellin, 2016