



# FOOD LOSS AND WASTE:

WHY AND HOW IT MATTERS TO YOU  
31 MARCH 2021 | 12:00-1:30PM (EDT)

North America's  
Commission for  
Environmental  
Cooperation





# FOOD LOSS AND WASTE: WHY AND HOW IT MATTERS TO YOU

Simultaneous interpretation

**Interpretación simultánea**

Interprétation simultanée

Technical issues

**Problemas técnicos**

Problèmes techniques

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WEBINAR

# FOOD LOSS AND WASTE:

WHY AND HOW IT MATTERS TO YOU  
31 MARCH 2021 | 12:00-1:30PM (EDT)



WITH



**ANTONIA ANDÚGAR**  
The Commission for  
Environmental Cooperation



**ARMANDO YÁÑEZ**  
The Commission for  
Environmental Cooperation



**BRIAN LIPINSKI**  
World Resources Institute



# #FoodWaste

SEMINARIO WEB

# PÉRDIDA Y DESPERDICIO DE ALIMENTOS:

POR QUÉ DEBE IMPORTARNOS  
31 DE MARZO DE 2021  
DE 12:00 A 13:30 HORAS (TIEMPO DEL ESTE)



CON



**DOMINGO LOMELÍ**  
Gerente, Restaurant LOS TROMPOS Tanlum,  
Mérida LOS TROMPOS



**CHRISTINE GALLAGHER**  
Gerente de Sustentabilidad  
Ambiental  
Ahold Delhaize, Estados Unidos



**SARAH FETEIH**  
Coordinadora del Programa,  
Alianza del Sistema  
Alimentario de San Diego  
(SDFSA por sus siglas en inglés)



WEBINAIRE

# LA PERTE ET LE GASPILLAGE D'ALIMENTS :

POURQUOI ET COMMENT  
C'EST IMPORTANT POUR VOUS  
31 MARS 2021 | 12 H 00 À 13 H 30 (HEURE AVANCÉE DE L'EST)



AVEC



**NÉLIDA BARAJAS**  
directrice Générale, Centre interculturel pour  
l'étude des déserts et des océans (CEDO)



**TERESA SCHOONINGS**  
directrice Principale Affaires  
Gouvernementales et Durabilité,  
Bimbo Canada



**BRUCE TAYLOR**  
président,  
Enviro-Stewards





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## PART 1 | INTRODUCTION | 12:00 – 12:30

### **Welcoming remarks, Overview and Introduction**

Antonia Andúgar, Project Lead, Green Growth Unit, CEC

### **The CEC work on Food Loss and Waste Prevention and Reduction**

Armando Yáñez, Head of Unit, Green Growth, CEC

### **CEC Video: Why measure food loss and waste**

### **Presentation of Practical Guide to Measure Food Loss and Waste 2.0**

Brian Lipinski, Associate, WRI

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## PART 2 | THE FOOD SUPPLY CHAIN ACTORS | 12:30-13:10

### THE FOOD SUPPLY CHAIN ACTORS: PRIMARY PRODUCTION

#### **Food loss and waste in fisheries? Links in the value chain of crab and clam fisheries, two sustainable fisheries in the northern Gulf of California**

Nélida Barajas, Executive Director, CEDO, the Intercultural Center for the Study of Deserts and Oceans

### THE FOOD SUPPLY CHAIN ACTORS: MANUFACTURERS

#### **Food Loss and Waste Reduction – Saves money, feeds people – It's the right thing to do**

Teresa Schoonings, Senior Director, Government Relations and Sustainability, Bimbo Canada, and Bruce Taylor, President, Enviro-Stewards

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### THE FOOD SUPPLY ACTORS: FOOD SERVICE

#### **LOS TROMPOS Restaurants: A sustainable network**

Domingo Lomelí, Manager, Restaurant LOS TROMPOS Tanlum, Mérida LOS TROMPOS

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### THE FOOD SUPPLY ACTORS: RETAILERS AND GROCERS

#### **Food Waste Prevention, Reduction & Recycling at ADUSA**

Christine Gallagher, Manager Environmental Sustainability, Ahold Delhaize, US

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### THE FOOD SUPPLY ACTORS: HOUSEHOLDS

#### **The “Save the Food, San Diego! Ecochallenge”**

Sarah Feteih, Program Coordinator, San Diego Food System Alliance (SDFSA)

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## PART 3 | CLOSING | 13:10 – 13:30

### **Q&A - Debate**

Brian Lipinski, Associate, WRI

### **Key takeaways and Closing Remarks**

Armando Yáñez, Head of Unit, Green Growth, CEC





Three countries united in the protection of  
our shared environment



# Commission for Environmental Cooperation

## 25 years of history

- Established in 1994 as part of the Environmental Cooperation Agreement of North America (NAAEC)
- Effective instrument to facilitate the cooperation
- Facilitator for the creation of networks
- Creator of a large collection of tools aimed at supporting our communities and governments

# Overview of CEC's work on Food Loss and Waste



- Parties set FLW as a tri-national priority on CEC's Strategic Plan 2015 – 2020
  - Group of experts is formed (Steering Committee) to define the vision and guide the process



**TARGET 12.3**

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

1

Understand the issue at hand

2

Developing tools and resources

3

Test, improve and promote use

**Building partnerships; working together; empowering**

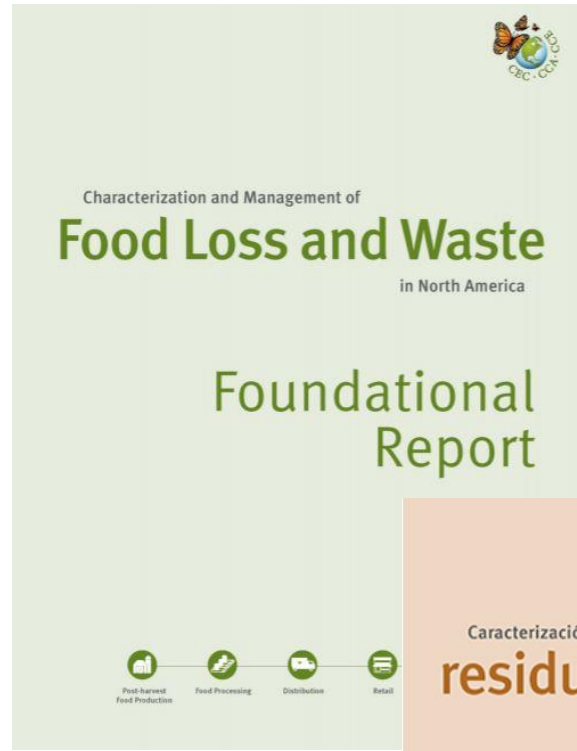


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# Understanding the issue at hand...

North American Initiative on Food Waste Reduction and Recovery and the North American Initiative on Organic Waste Diversion and Processing

- ❖ Publications:
  - Foundational reports
  - White papers
  - Case Studies





# FOOD LOSS AND WASTE

Approximately 168,000,000 tonnes are lost or wasted  
in North America each year





# Food Waste: Facts & Figures

Approximately **168 million tonnes** of food is lost or wasted in North America each year

And, each year, the food we waste costs the North American economy **\$278 Billion US dollars** and could have fed **260 million people**

Here's what else we waste when we waste food:

Enough water to fill **7 million Olympic-sized swimming pools** (18 billion m<sup>3</sup>)

**39 million m<sup>3</sup> of landfill space**, equivalent to 13 football stadiums gets used up with our food waste each year

**193 million tonnes of greenhouse gases** emitted needlessly, the same as driving 41 million cars continuously for a whole year

Enough energy to power **274 million homes**

In the United States alone, over **32 million hectares of wildlife habitat** is lost to farmland to grow food that is never eaten

**\$1.9 billion US dollars** in wasted landfill tipping fees



# Food Loss and Waste Kilograms / Person / Year

CANADA  
**396**



MEXICO  
**249**



UNITED STATES  
**415**



# Food Loss and Waste in North America across the Supply Chain Million Tonnes / Year



CONSUMER

**67**

PRE-HARVEST

**49**



POST-HARVEST

**16**



PROCESSING

**20**



DISTRIBUTION  
RETAIL  
FOOD SERVICE

**15**





# Causes of Food Loss and Waste across by Stage of the Food Supply Chain

## POST-HARVEST



- ✓ Inaccurate supply-and-demand forecasting

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- ✓ Low market prices and lack of markets (especially for second-grade products)

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- ✓ Grade standards for size and quality

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- ✓ Cold-chain (refrigeration) deficiencies

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- ✓ Others

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## PROCESSING



- ✓ Inadequate infrastructure, machinery

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- ✓ Damage during production

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- ✓ Trimming and culling

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- ✓ Inconsistent/confusing date labels

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- ✓ Others

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## DISTRIBUTION



- ✓ Damage during transport

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- ✓ Rejection of shipments

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- ✓ Incorrect/ineffective packaging

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- ✓ Delays during border inspection

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- ✓ Others

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## RETAIL



- ✓ Rigid management

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- ✓ Marketing practices

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- ✓ Overstocking

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- ✓ Market over-saturation

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- ✓ Others

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## FOODSERVICE



- ✓ Plate composition

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- ✓ Over-serving

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- ✓ Improper handling and storage

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- ✓ Food safety concerns

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- ✓ Others

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## 2 Developing tools and resources...

### Tools and Resources



#### Food Matters Action Kit

The Food Matters Action Kit provides North American youth with dozens of easy and fun activities that have a positive impact on our environment.



#### Why and How to Measure Food Loss and Waste

This practical guide provides a step-by-step plan for organizations all along the food supply chain to measure food loss and waste.



#### Food Loss and Waste: Infographic

What is the estimated impact of food loss and waste on our lives and on our surrounding environment?

Two components...



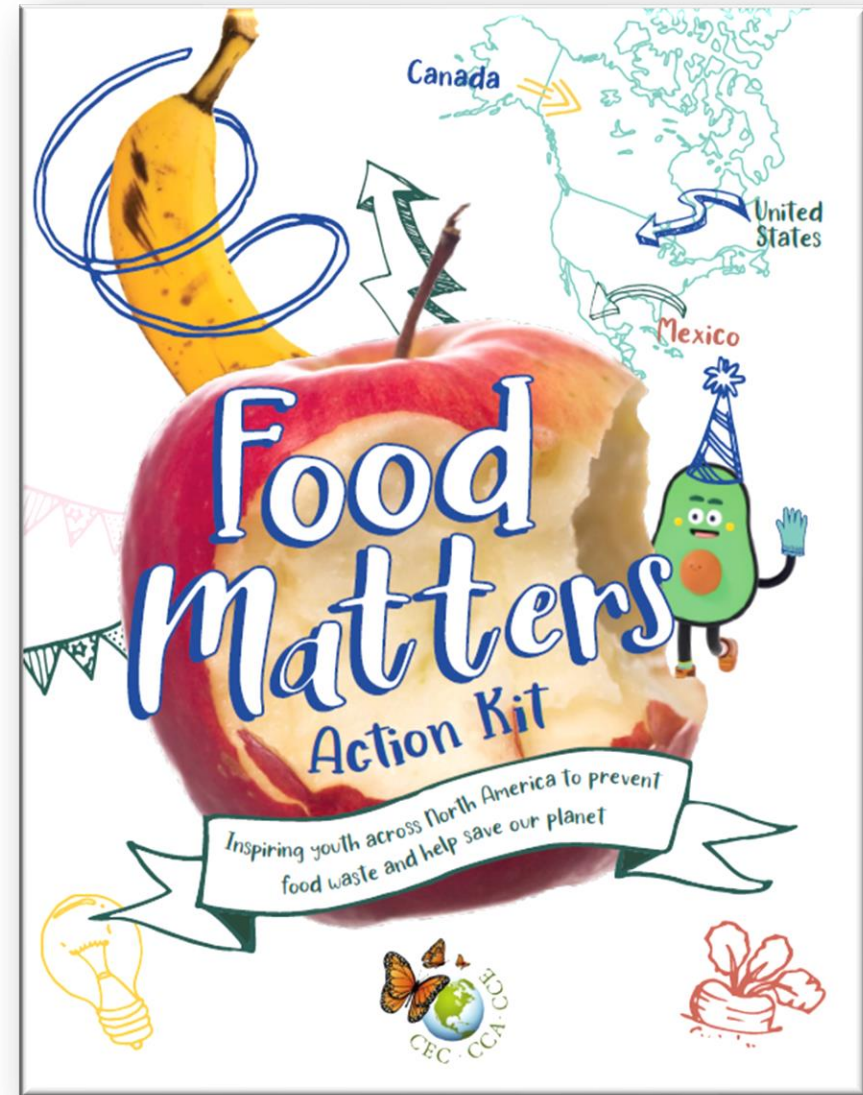
### The Food Matters Action Kit

The *Food Matters Action Kit* is an educational tool designed to bring awareness of the growing problem of food waste in North America to **kids and youth aged 5-25**.

Inspiring youth across North America to prevent food waste and help save our planet

This *Action Kit* was developed by the CEC as part of an initiative called **Empowering Youth to Prevent Food Waste, Protect Our Environment and Help Save the Planet**, completed under the CEC's 2017-2018 Operational Plan.

Available at  
[www.cec.org/flwy](http://www.cec.org/flwy)



# Anatomy of the Food Matters Action Kit



- Educators guide
- Activities range from 30 minutes to multi-week projects
- Impact-oriented
- Challenges and Recognition system

Part I  
Kids Action Kit  
(ages 5-13)



Part II  
Youth Action Kit  
(ages 14-25)




Kid's Activity #8

# Tackle Food Waste with Worms


Nourishing the soil with vermicomposting

There are hundreds of ways to prevent food waste in your home and community. But no matter how good we are at not wasting food, there will always be food scraps that can't be eaten—at least not by us! However, worms love to eat apple cores, pea shells, pepper stems and all kinds of organic material that we don't like to eat.

Composting with worms is called vermicomposting. And what the worms poop out is called worm castings, which make fresh, nutrient-rich soil. Worms are a sign of healthy soil so pay attention whenever you dig.



**WORMS!**



## Understanding avoidable and unavoidable food waste

The first step to vermicomposting is knowing which foods can be eaten and which can be composted. To prevent food waste, it is important to know what foods can still be eaten and what should be composted.

### Edible and Inedible Food Waste

Which items can be eaten and which are for compost?

**Eat!**

- wrinkly tomato
- 1/2 eaten sandwich
- corn with a few soft spots
- 1/2 eaten apple
- broccoli stalks
- banana peel
- apple core
- corn cob

**Compost**

- leftovers
- 1/2 eaten melon
- melon rind
- onion skins

**Wait! There are some tricks...** broccoli stalks<sup>39</sup>, watermelon rinds<sup>40</sup>, onion skins<sup>41</sup> and corn cobs<sup>42</sup> can all be made into delicious and nutritious meals. In Activity #6, learn all about preparing commonly tossed food parts like orange peels.

## Vermicomposting Making Compost With the Help of Worms

Estimated time: 2 hours

### You'll Need:

- A plastic tub with a screen or air holes in the lid
- Newspaper
- Coffee grounds, apple cores or other food scraps
- Red wiggler worms (*Eisenia fetida*). You can order these worms online or ask someone with a vermicompost bin to share theirs with you. They will reproduce, but the more you start with, the more food scraps they'll eat right away.


### Making it Happen:

- Shred newspaper and spray it with water to make a soft, moist environment for your worms.
- Feed your worms small pieces of inedible food waste. They like banana peels, carrot tops, avocado skins and most kinds of raw food scraps. They don't like acidic foods like oranges and lemons or strong-smelling foods like onions and chili peppers.
- Feed your worms daily, and keep newspaper moist by spraying with water.

### Want to do More?

- Learn more about vermicomposting and fun projects to do with your worms.<sup>43</sup>
- Are you ready to take your composting to the next level? See Activity #18 to learn how to build an outdoor composter—it can compost much more food than your vermicompost bin.

**Did you know?**  
Worms eat half their body weight daily. A bin containing 500 grams of worms will eat 250 grams of food scraps every day.<sup>44</sup>



# Part I Sample Activity: Tackle Food Waste with Worms

Kid's Activity #8: for kids aged 5-13 (grades K-7)

Want to know more? -- Visit [www.cec.org](http://www.cec.org) -- Join us in the upcoming webinar with Green Teacher!  
The Food Matters Action Kit & Activity Guide for Educators, April 7th, 2021; 7:30-8:30 p.m. EST  
<https://greenteacher.com/webinars/>



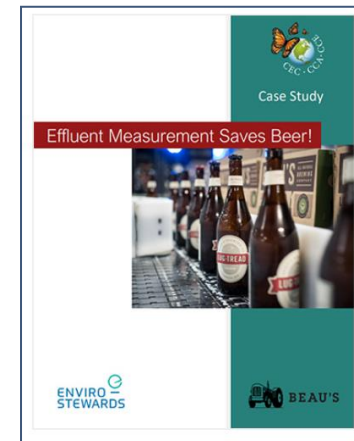
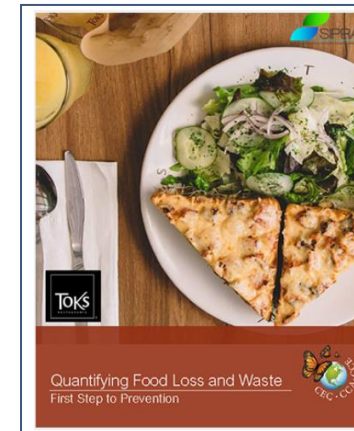
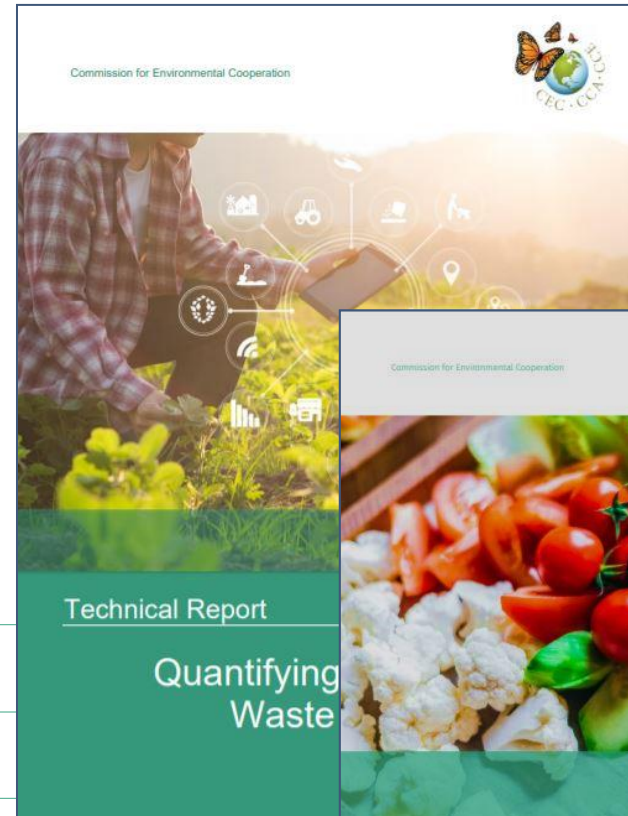


## 2

# Developing tools and resources - Measurement component

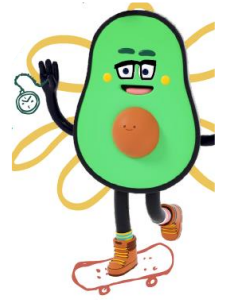


- ❖ **Technical Report: Quantifying Food Loss and Waste and Its Impacts**
- ❖ **Practical Guide: Why and How to measure Food Loss and Waste**
  - **Case studies**



- |   |  |
|---|--|
| ✓ | <b>Step 1: Determine <i>why</i> you want to reduce food loss and waste.</b><br>(Module: Why Measure FLW?)  |
| ✓ | <b>Step 2: Establish your business case for reducing food loss and waste.</b><br>(Module: The Business Case for FLW Reduction)                               |
| ✓ | <b>Step 3: Prepare for the <i>change</i> of measuring and reducing food loss and waste.</b><br>(Module: Managing Change)                                     |
| ✓ | <b>Step 4: Determine your <i>definition</i> of food loss and waste.</b><br>(Module: Setting Your Scope)  |
| ✓ | <b>Step 5: Determine your <i>causes</i> of food loss and waste and identify solutions.</b><br>(Module: Determining Root Causes)                              |
| ✓ | <b>Step 6: Identify your <i>key performance indicators</i> and <i>impacts</i>.</b><br>(Module: Selecting Key Performance Indicators and Identifying Impacts) |
| ✓ | <b>Step 7: Select and implement a food loss and waste measurement <i>method</i> based on your sector.</b><br>(Module: Sector-Specific Guidance)              |

# 3 Test, improve and promote use... Education component



## Let's Shrink Food Waste Mountain campaign

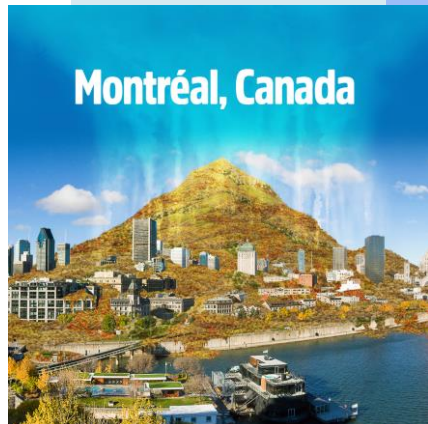
Teaching kids and youth about the impacts of food waste can help shape their habits into adulthood and encourage them to live sustainably. Here are 3 ways the *Food Matters Action Kit* fosters change:

# 1



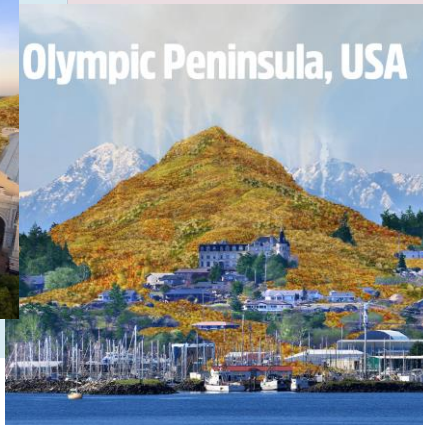
### Knowledge is Power

It teaches the impact of food waste on our planet.



# 2

### Shift Behavior



It shows youth how to prevent food waste by changing attitudes about food and by developing new habits and skills.

# 3



### Spread the Word

It allows youth to encourage food waste action and share tips at home, at school, and in their community, in order to help address the issue together.



# Let's Shrink Food Waste Mountain

## Réduisons la montagne de gaspillage alimentaire

### Reduzcamos la montaña de alimentos desperdiciados



#ShrinkFoodWaste

#FoodMattersActionKit

Module 1: [Let's Shrink Food Waste Mountain](#)

Module 2: [Tale of the Forgotten Food](#)

Module 3: [Day of the Ugly Food](#)

#RéduisTonGaspillage

#AntiGaspillageAlimentaire

Module 1: [Réduisons la montagne de déchets alimentaires](#)

Module 2: [L'histoire des aliments oubliés](#)

Module 3 : [Les aliments moches en vedette](#)

#ReduceElDesperdicio

#LosAlimentosImportan

Módulo 1: [Reduzcamos la montaña de alimentos desperdiciados](#)

Módulo 2: [Historia de los alimentos olvidados](#)

Módulo 3: [Día de los Alimentos Feos](#)

#ShrinkFoodWaste



Let's Shrink Food Waste Mountain



Tale of the Forgotten Food



Day of the Ugly Food



[www.cec.org](http://www.cec.org)

# 3 Test, improve and promote use... Measurement component



Online survey

Pilot testing throughout the food supply chain

Additional Case Studies

Improved version Practical Guide 2.0

New resources

Promote use

# Practical Guide 2.0



Commission for Environmental Cooperation

**Why and How to Measure Food Loss and Waste**

A PRACTICAL GUIDE - VERSION 2.0

**Bruized**  
Preventing Food Loss and Waste with Partners Throughout the Food Supply Chain

**Food Loss and Waste Prevention Case Study**

**What was done to prevent FLW?**  
Bruized uses food and ingredients nearing the end of their lifecycles and processes them into new, value-added products with an extended shelf life, thus preventing food loss and waste.

**How was it done?**  
By working with local farms, stores, and food businesses, Bruized acquires food before it is sent to landfill or compost product.

**What were the results?**  
Since its founding in 2019, Bruized has processed nearly 3,000 pounds of food from local farms, stores, and food businesses.

**The Spent Goods Company**  
Bière -> pain! Revalorisation et commercialisation des déchets alimentaires

**Étude de cas sur la perte et le gaspillage d'aliments**

**Quelles mesures prend-on afin d'éviter la perte et le gaspillage d'aliments?**  
The Spent Goods Company est une société qui réutilise les déchets séchés de brasserie à dire des résidus de céréales qui entrent le brassage de la bière et transforme le fait de nouveaux produits avec des ingrédients qui, autrement, seraient expédiés vers un d'enfouissement.

**Comment procède-t-on?**  
Cette société collabore avec d'autres tiers et des boulangeries locales en vue de recueillir des partenaires, de surmonter les défis logistiques, et d'éviter que des céréales ne soient dirigées vers un site d'enfouissement.

**Quels sont les résultats?**  
Quelque 1 600 kilogrammes de déchets secs, pris le chemin d'un site d'enfouissement entre 2018 et 2020, ce qui a permis de produire de 1,8 tonne d'émissions à effet de serre (GES) et générés de revenus pour des entreprises de la d'approvisionnement alimentaire.

**Organisation**  
La société **Spent Goods**, fondée en 2019 à Toronto, en Ontario, vise à prévenir la perte et le gaspillage d'aliments en collaborant avec des brasseries et des boulangeries locales pour transformer les déchets en nouveaux produits, notamment des pains, des bagels, des muffins anglais, des petits pains et des collations comme des craquelins et des biscuits. Grâce à cette approche, Spent Goods illustre le rôle que les entreprises peuvent jouer afin de réduire la production de déchets et minimiser leurs répercussions sur l'environnement, tout en créant des produits délicieux et nutritifs qui génèrent des revenus pour les intervenants dans l'ensemble de la chaîne d'approvisionnement alimentaire.

**Introduction**  
Les grains utilisés dans le brassage de la bière deviennent des « déchets » ou produits dérivés solides composés d'enveloppes d'orge et d'autres éléments comestibles de l'orge. Ces résidus représentent environ 85 % des déchets de brassage et ils sont généralement expédiés vers des sites d'enfouissement ou, dans certains cas, sont pulvérisés dans les champs sous forme d'engrais ou encore transformés en aliments pour les animaux. Spent Goods estime qu'environ 15 millions de kilogrammes de déchets sont produits chaque année en Ontario, et que la grande majorité est acheminée vers des sites d'enfouissement.

Cependant, les déchets de brasserie sont très nutritifs et ont une teneur élevée en protéines et en fibres. Compte tenu de cette valeur nutritive, elles peuvent très bien remplacer une partie de la farine traditionnelle utilisée dans la préparation de produits de boulangerie et de pâtisseries, ainsi que de produits analogues. S'ils étaient

**Qu'a-t-on mesuré?**  
Les membres de l'équipe du programme de recherche participative Let's Team Up on Food Waste @ DC Wards 7 and 8 (l'équipe de recherche) ont mesuré le « gaspillage alimentaire évité » ou le précentage pour lequel raison ils étaient prêts, et ont déclaré ensuite chaque semaine les données relatives au volume et au poids de ces articles.

**Comment l'a-t-on mesuré?**  
Les membres de l'équipe ont utilisé une fiche d'observation, de données normalisée afin de tenir une liste des articles qui étaient prêts, et ont déclaré ensuite chaque semaine les données relatives au volume et au poids de ces articles.

**Quels ont été les résultats?**  
Ensemble, les participants (ou « chercheurs-participants ») ont réduit de quelque 60 % le « gaspillage alimentaire évité ». En outre, ils ont fait état de certains avantages, notamment, l'économie de temps et d'argent, ils ont également apprécié l'expérience et ont souligné plusieurs autres mesures (ou actions) à prendre pour réduire le gaspillage alimentaire. Les équipes de participants ont également travaillé en partenariat avec l'Association Naturalists Society, qui a permis de mener à bien un défi d'action citoyenne axé sur la valorisation de la nourriture, intitulé « Let's Team Up on Food Waste @ Home » (l'équipe de recherche) et qui s'adresse aux enseignants et aux chefs d'équipe « verte ». Ce guide tient compte de considérations liées à l'inclusion en ce qui concerne les élèves et les ménages faisant face à des problèmes d'accès à la nourriture et de sécurité alimentaire, ce qui représentait le but du projet.

Available at [www.cec.org](http://www.cec.org)

**New case studies**  
**Business cost calculator**  
**Executive slides**  
**Video**

**Recycle Leaders, Loop Closing et Soifful**  
La nourriture d'abord : Un modèle reproductible pour inciter les résidents des quartiers 7 et 8 de la ville de Washington à agir en matière de durabilité

**Étude de cas sur la mesure de la perte et du gaspillage**

**Organismes**  
Trois petites entreprises de Washington, D.C. à savoir Recycle Leaders, Loop Closing et Soifful, se sont associées afin de mettre en place une subvention encourageant l'action communautaire et cadrait avec le Sustainable DC 20 Plan (Plan 20) axé sur la durabilité qui est financé par la ville. La subvention a permis de soutenir la mise en œuvre d'un projet de recherche participative, intitulé Let's Team Up on Food Waste @ DC Wards 7 and 8 (l'équipe de recherche) et qui s'adresse aux enseignants et aux chefs d'équipe « verte ». Ce guide tient compte de considérations liées à l'inclusion en ce qui concerne les élèves et les ménages faisant face à des problèmes d'accès à la nourriture et de sécurité alimentaire, ce qui représentait le but du projet.

**Introduction**  
En avril 2020, Recycle Leaders a lancé le défi Let's Team Up on Food Waste @ Home (l'équipe de recherche) pour réduire le gaspillage alimentaire à la maison, parce que plusieurs écoles de la région métropolitaine de Washington devaient mettre en place un projet afin de souligner le Jour de la Terre 2020, mais en respectant la distanciation qu'imposait la COVID-19. Plus particulièrement, une équipe verte d'une école secondaire locale avait prévu d'effectuer une vérification des déchets alimentaires à l'école, et Ellie Fried, la chef de l'équipe en question, souhaitait gérer les



# FOOD LOSS AND WASTE:

WHY AND HOW DOES IT MATTER TO YOU?

# #FoodWaste

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Commission for Environmental Cooperation  
[www.cec.org](http://www.cec.org)



Thank you!  
¡Gracias!  
Merci!