

Ministry of Health

# Reference Document for Safe Food Donation

March 2020

# Contents

<b>Preamble</b> .....	<b>3</b>
<b>Introduction</b> .....	<b>3</b>
<b>Purpose</b> .....	<b>5</b>
<b>Relevant legislation</b> .....	<b>7</b>
<b>Food Premises Inspections</b> .....	<b>9</b>
<b>Partners in the Food Donation Process</b> .....	<b>9</b>
<b>Documentation</b> .....	<b>14</b>
<b>Receiving Food Donations</b> .....	<b>17</b>
<b>Food Safety</b> .....	<b>25</b>
<b>Cleaning and Sanitation for Equipment, Food Contact Surfaces and Utensils</b> .....	<b>35</b>
<b>Building Premises Construction, Maintenance and Safety</b> .....	<b>37</b>
<b>Food Transportation and Vehicles</b> .....	<b>39</b>
<b>Glossary</b> .....	<b>40</b>

**Disclaimer:** This document is provided for educational use and is not complete or exact reproductions of the applicable legislation. It is not intended, or to be used, as legal advice about the requirements relating to food premises as those are found in legislation. Where there is a discrepancy between anything in this document and a legislative provision, the legislation prevails. Independent legal or professional advice should be obtained when determining the interpretation and application of any legislation or regulations. The Ontario Ministry of Health is not responsible for decisions made as a result of reliance on this document. Responsibility for decisions remains with the user of this document.

## **Acknowledgement**

The Reference Document for Safe Food Donation has been adapted from the British Columbia Centre for Disease Control *Food Safety Guidelines for Food Distribution Organizations with Grocery or Meal Programs*.<sup>1</sup>

This guide is the result of revisions by the Ontario Ministry of Health with input from the Ministry of Environment, Conservation and Parks Food and Organic Waste Steering Committee and stakeholders, partner ministries, Public Health Ontario, Ontario Dietitians in Public Health, and public health units.

## Preamble

Reference Documents are program or topic-specific documents that provide information and best practices relevant to implementing the Ontario Public Health Standards: Requirements for Programs, Services, and Accountability (Standards)<sup>2</sup>, Protocols and Guidelines. Reference Documents are not enforceable, the aim of this Reference Documents is to provide support to food donors, food rescue, community meal programs and volunteers with general principles and guidance for donating and distributing food safely.

## Introduction

Across Canada, the amount of edible, inedible and other organic material that is unnecessarily discarded is staggering. While progress has been made to address the issue of food waste from a variety of sectors, approximately 3.1 billion dollars of food and organic material is wasted annually<sup>3</sup>. Reducing food waste has environmental, social, and economic benefits. Efforts to support food donation and rescue activities can provide an outlet for food waste, although these are not solutions to food insecurity, which is caused by insufficient income to purchase food.

Food may be donated from many sources from farm to fork, such as direct from farms, manufacturing, processing, food retail, and consumers. The type of food donated varies considerably from whole vegetables and fruit, ready-to-eat food, and prepared food that is perishable or shelf-stable.

In addition to provision of food via food banks, food charities, and food rescue organizations, there are a growing number of programs such as community kitchens, cooking demonstrations, after-school and breakfast programs, and other

community meal programs that may donate food. This Reference Document provides best practices for the food donation process, reflecting the diversity of services offered and food safety topics including:

1. Food Premise Inspections;
2. Best practices for establishing effective partnerships;
3. The donation process;
4. Receiving food donations;
5. Food safety;
6. Building maintenance and pest control; and
7. Transportation

Donated food may look the same as food found in grocery store shelves, or it may have a range of irregularities such as cosmetic flaws or minimally damaged packaging. Though the quality and appearance may differ, it is important to ensure that all food donated is safe for consumption. Donated food is frequently accessed by all types of people, including those considered to be vulnerable populations who are more likely to experience serious complications associated with the consumption of contaminated food. In addition to food safety, this guide provides recommendations to develop mutually beneficial partnerships in the food donation process, a review of relevant regulatory and inspection requirements and general safety practices.

This Reference Document represents principles to guide the food donation process and incorporation of safe food handling evidence where possible. Supplemental Materials including Appendices are found in the partner resource, Safe Food Donation Supplemental Materials, where section summaries are provided in Appendix A.

## Purpose

The Reference Document for Safe Food Donation targets food donors, food rescue, food charity and volunteers with the aim to:

- Support the actions set out in the Preserving and Protecting our Environment for Future Generations: A Made-in-Ontario Environment Plan by developing a safe food donation resource for food donation and rescue stakeholders. Promote safe food handling practices for food donors, food rescue, and food charity operators with best practices to facilitate the provision of safe food in their communities.
- Identify operational procedures to establish partnerships, promote communication and consistency between a variety of stakeholders.

## Background

Surplus food that can be safely donated may occur in a variety of settings across the food production chain, from the farm to manufacturing, retail and restaurants (figure 1). The below information helps to identify key stakeholders that are part of the food donation process.

**Food production chain:** The food production chain begins with agricultural practices at the farm through to production, processing, distribution, retail, restaurants, and end consumers. These are the various stages to consider in the lifecycle of a food product. The food chain may also include additional steps such as food donation, food rescue, food charity, to end consumers.



Figure 1 – Food production chain<sup>4</sup>

**Food donors:** are most often food businesses that provide food, free of charge, to charitable organizations, food rescue organizations or community meal programs.

**Food rescue organization:** recovers unsold food from inspected food premises (e.g., grocery stores) and redistributes the food to organizations that provide it to individuals or to community food and meal programs. (i.e., an intermediary but not a party that distributes directly to members of the public).

**Community meal programs:** inspected food premises that provide meal or snack programs (e.g., breakfast programs) and serve food to patrons on-site.

**Food banks:** food banks and smaller food pantries provide food at no cost to clients. Food banks perform a number of functions including receiving, holding, storing, packaging, repackaging and distributing food to be consumed off the premises, but do not generally process or serve food. Most food banks are also food rescue organizations where many may offer or operate community meal programs and will be inspected as food premises.

**Individuals:** members of the public who donate shelf-stable non-perishable food items to charitable organizations or non-profit organizations as a component of a food drive.

## Relevant legislation

The Ontario Ministry of Health (MOH) establishes provincial priorities including standards for public health programs and services delivered through local public health units. Public health units are the delivery agencies for local public health programs and services.

Public health inspectors are responsible for monitoring and ensuring compliance with Ontario Regulation 493/17 (Food Premises) made under the *Health Protection and Promotion Act* (HPPA). Food premises operators are responsible for ensuring they are in compliance with relevant legislation, and should speak with their local Ontario public health unit for more information.

Requirements for food premises are outlined in the following legislation:

- **Health Protection and Promotion Act (HPPA):** Legislation that governs the authority of public health and food premises owner/operator responsibilities in food premises which include food donors, food rescue, food banks and community meal programs.
- **Ontario Regulation 493/17 Food Premises (Food Premises):** The Food Premises regulation falls under the *HPPA*, has specific requirements for food premises and is enforced by public health inspectors in Ontario. See Appendix B for more information on exceptions and exemptions to the Food Premises regulation.

- **Provincial Offences Act (POA)**: Provides authority under Ontario Regulation 950 for provincial offence notices (tickets) for infractions under the Food Premises regulation. For more information on POA tickets, refer to the [Guide for defendants in Provincial offences cases](#).
- **The Donation of Food Act, 1994**: Provides protection to food donors and those distributing donated food, from liability for damages from injuries or death caused by consuming donated food.
- **Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA)**: Responsible for overseeing the safety of some specific food items that are processed and manufactured for marketing within the province of Ontario. Regulatory oversight exists for specific commodities such as milk and milk products, meat and meat products, fish, eggs and processed egg, produce, honey and maple products. Appointed OMAFRA inspectors (including some veterinarians, in the case of meat and meat products) provide oversight and ensure compliance with the applicable regulatory requirements.
- **The Canadian Food Inspection Agency (CFIA)**: The CFIA is a federal authority that has jurisdiction across Canada. The CFIA enforces federal food safety regulations for both domestic and imported food. Primarily, this entails verifying that manufacturers, importers, distributors and producers meet Government of Canada regulations and standards for food safety, quality, quantity, composition, handling, identity, processing, packaging and labelling.
- **Smoke Free Ontario Act (SFOA)**: Legislation that protects workers and the public from second-hand smoke and reduces access to tobacco products. The SFOA controls the sale and display of tobacco, and prohibits smoking in enclosed work and public places, as well as other designated places.
- **Resource Recovery and Circular Economy Act**: Focuses on waste reduction and resource recovery through preventing and reducing food waste, effectively and efficiently collecting and processing food and organic waste and reintegrating recovered resources back into the economy.



# Food Premises Inspections

## What is a food premises?

Under the HPPA, a food premises means a premises where food or milk is manufactured, processed, prepared, stored, handled, displayed, distributed, transported, sold or offered for sale, but does not include a room actually used as a dwelling in a private residence. Examples of food premises in Ontario that may be part of food donation activities include food banks, community meal or snack programs, soup kitchens, food rescue organizations, and inspected home-based food premises.

## What food premises require an inspection by the local public health unit?

The activities and services of a food premise will determine whether an inspection from the local public health unit is required. However, under the HPPA, all new food premises operators are required to provide notification to the local public health unit prior to operating and have an obligation to ensure they act in a manner that will not cause a health hazard. In addition to the HPPA, the operator may be required to comply with the Food Premises regulation, with specific requirements related to, amongst other things, safe food handling, storage, hygiene, equipment and cleaning and sanitizing. Some types of food premises may also be required to obtain a permit depending on local municipal by-laws. For more information on frequently asked questions, please refer to Appendix C.

## Partners in the Food Donation Process

Establishing strong working relationships between food donors and food rescue organizations can assist in securing longer-term and reliable food donations. Below are some approaches for food rescue organizations and donors to develop and maintain positive relationships. Many of these involve written agreements. Although the paperwork may seem onerous at first, it can help streamline the donation

process, prevent future problems from arising, and help strengthen ongoing relationships.

## Commencing a food donation relationship between food donors and food rescue organizations

- Review and discuss the *Donation of Food Act, 1994*. Fear of potential liability is one of the main reasons why potential donors are reluctant to donate food.
- Food rescue organizations should communicate to food donors about how their food will be used and how the food programming benefits the entire community.
- Respect pre-existing arrangements with other food rescue organizations as well as the agreed-upon schedule. Communication about food donation issues contributes to a functional food donation network.
- Quality and quantity of food donated should be discussed ahead of time. Food rescue organizations should specify the types of food they would prefer and specify any food they will not accept. This includes capacity to recycle damaged packaging, compost inedible food, and how unusable food or packaging impacts the food rescue organization.
- Food donors and food rescue organizations should be provided with all the contact information necessary, including primary contacts and backups.
- If food is donated by a food premises rather than private home, ensure the food premises is inspected by the local public health unit, or that the public health unit is aware of premises. Food may be donated by a private home, though this should be limited to pre-packaged, shelf- stable and non-perishable food.
- A Memorandum of Understanding with the food donor and food rescue organizations is a valuable way to clarify mutual expectations. This agreement will also allow the food donor to decide how the food they donate can be used.
- Some donors and food rescue organizations may wish for additional clarity regarding liability and responsibility beyond the *Donation of Food Act, 1994*. In

these cases, you may consider entering into a legal agreement with the food donors.

## The food donation process

The food donation process is often an organic process based on the needs of the community and the natural relationships that exist between donors and service providers. In other cases, it may be necessary to seek out partnerships to facilitate food donation. Below are examples of practices that can be helpful once a partnership has been established:

- Food donors should identify where food will be placed for pick-up, and ensure it is easily accessible.
- Food donors should include an ingredients list in cases where ingredients are not marked on the packaging (e.g., allergen warnings: "this box has a granola with peanuts") should be written and attached to the food. Refer to list of 11 priority allergens on page 33.
- A set schedule for pickup and delivery will benefit both the food rescue organization and the food donor.
- Volunteers or staff should be equipped with the appropriate identification and safety equipment needed to conduct activities safely.
- Volunteers or staff should have labels to attach to unlabelled food when critical information needs to be recorded, such as allergens, lot codes, or best before dates. It is best to do this at the time of pickup.
- If offered additional items during pickup, the food rescue organization should ensure the capacity to store and distribute the food. Refer to page 36 for additional information on safe transportation.

## Practices with other food rescue organizations

It is also important to be respectful and mindful of other food rescue organizations. Rather than competing, food rescue organizations can work together to build a network to share skills or help use large donations of perishable items.

- If a food rescue organization cannot make a pick-up from a food donor, the donor may contact another food rescue organization to fill in and take the food.
- Food donor staff may not distinguish between food rescue organizations, so it is important to stick to the schedule developed between each food rescue organization and food donor so that food being picked up is delivered where it is intended.

## Working with the local public health unit

Public health inspectors are well suited to provide education and practical advice about food safety. Operators are encouraged to consult with public health inspectors early on to work together toward shared food safety outcomes. As previously mentioned, notification to the local public health unit before starting a new food premise is required under the HPPA. The owner/operator is responsible for providing contact and location information in the notice of intention to commence a food premise. Notification allows the opportunity for food premises operators and public health inspectors to communicate and address information needs such as food safety requirements, preliminary food safety considerations for planned food preparation and/or distribution, access to food handler training, resources such as signage and any other information deemed important.

## How can other sectors help?

### **Individuals**

Many members of the public support food donation activities such as food drives or food donation to food banks. Individual members of the public can choose to donate non-perishable, shelf-stable food items purchased from a commercial source (i.e., grocery store).

### **Municipalities**

Municipalities may provide relevant information and support for food donation and rescue activities through partnerships in community planning, food related councils, municipal services and applicable by-laws.

## **Local Farmers**

Building partnerships with local farmers may be mutually beneficial for both food donation to a food rescue organization and for inedible food recycling. Some farmers may have fruits and vegetables to donate such as imperfect produce. Alternatively, some farmers may accept fruit and vegetables that are not fit for human consumption but may be suitable as feed for animals or as a compostable soil organic amendment. Care should be taken by food rescue organizations to ensure inedible fruit and vegetable materials remain separate from inedible animal protein materials. It is also important to note when working with primary food producers that many farms have strict biosecurity controls in place to reduce the risk of spreading disease to plants and animals. Entry onto farms is only permitted with expressed consent of the farm owner and all biosecurity controls must be followed.

- Ontario has a Food Donation Tax Credit for farmers who donate agricultural products to eligible community food programs, including food banks. Under the program, farmers can get a tax credit valued at 25 per cent of the fair market value of the agricultural products they donate.
- Community food programs, like the Student Nutrition Program, may also benefit by receiving donations of more fresh local food for distribution to children and youth in schools across Ontario.
- The tax credit program is part of Ontario's broader local food strategy to promote the good things that are grown and harvested across the province. More details can be found on the [Ministry of Agriculture, Food and Rural Affairs website](#).

## **Organic Waste Processors**

Communicating and building a relationship with a local organic waste processor may be beneficial for food rescue organizations who need to dispose of inedible food if organic waste material (Green Bin) are not picked up by the local waste management provider.

Food rescue organizations and donors should consider sending inedible food that cannot be directed to local farmers to organic waste facilities rather than disposing

of inedible food in a landfill. This contributes to a circular economy by producing renewable products like gas and soil and is beneficial to the environment.

## **Technology**

Smaller scale food premises, such as restaurants, may be interested in donating surplus food but unsure of where to start. Consideration should be given to utilizing existing community partnerships or online applications dedicated to matching donors with food rescue organizations (e.g. foodrescue.ca). For these smaller scale premises, there may be opportunity to donate food directly to those in need through community refrigerators. Community refrigerators are custom built to provide refrigerated food to those in need and are open to the public, often located outside of a food premise. Operators should discuss the operation of such food donation plans with the local public health inspector to ensure food quality, safety, and appropriate identification of allergens and labelling is not compromised.

## Documentation

Documentation is a key component to the food donation process to ensure transparency and accountability. The below sections will highlight some key documentation that should be considered.

### Training documentation

Operators should keep track of food safety training records for all employees and volunteers. This will enable persons responsible for employees and volunteers to ensure a person trained in food safety is always on-site. Copies of certifications can be kept on-site in the event a public health inspector requests documentation. Periodic re-training of some personnel may also be required. In Ontario, provincially recognized food handler training certificates expire every five (5) years.

### Operator, employee and volunteer training

To minimize the risk of distributing unsafe food, operators, employees and volunteers, especially those involved in critical aspects of the operations, should be properly trained. This includes those making decisions as to what food is safe for

receiving and distributing, handling potentially hazardous food, or involved in repackaging of food.

With some exceptions, the Food Premises regulation requires that every operator of a food service premise shall ensure that there is at least one food handler or supervisor on the premise who has completed food handler training during every hour in which the premise is operating. The Food Premises regulation defines a food service premise as, any food premise where meals or meal portions are prepared for immediate consumption or sold or served in a manner that will permit immediate consumption on the premises or elsewhere. For premises that are exempt from ensuring at least one food handler is on site and for volunteers and staff who have not received safe food handler training, consistent, minimum training expectations should be established.

Courses that meet the regulatory requirement for food handler training and certification include all food handler training courses offered by Ontario public health units and other provincially recognized providers listed on the Ontario Ministry of Health's [website](#). Courses are available in online or in-class formats. Contact the local public health unit or visit the ministry website for information about available courses.

## Tracking food

Food rescue organizations are one pathway through which food reaches the consumer. If a food safety risk is detected in a food item that has been accepted, it is important to know where it came from and if it has been distributed, where it went. This can also be described as a "one step back and one step forward" traceability system. What this means is that food premise operators are encouraged to record two (2) sets of information:

- (1) who supplied the food, with enough information about the food that tracing is possible; and
- (2) where the food was delivered to (i.e., the receiving organization).

Operators may receive food from any source in the food production chain: producers, processors, distributors, restaurants, retailers and the general public. Food rescue organizations are recommended to record the following information for foods they receive:

1. Date received;
2. Food product name and description (lot code);
3. Supplier or company providing the food;
4. Date used by and/or best before date;
5. Where the food was sent; and
6. Date delivered.

When one food rescue organization is providing food to another, ensure that the receiving food rescue organization is up to date on any food safety alerts or warnings from the CFIA. Food rescue organizations need to be responsible donors and keep adequate records of where the food came from and who it was delivered to.

## Food recalls

The CFIA provides current information on food product recalls and provides a notification service to the public. It is recommended to subscribe to the [CFIA's recall notification](#) service to ensure the food premise operators have current and up-to-date information on recalled food that may be in the distribution system. Food processing and distribution companies partnering with food rescue organizations are also expected to call when they are informed that a product they have distributed is under a recall. These businesses are also tasked with maintaining records that will allow them to contact customers (including food rescue organization customers) when a food is being recalled. Recall the illustration of the Food Production Chain on page 6.



# Receiving Food Donations

## Evaluating food packaging

Operators receiving packaged food will need to make some judgements on the acceptability of the food based on the state of packaging. A food rescue organization may reject food if it does not meet food safety requirements.






### **Recovered food**

Visibly damaged food after a flood, fire or closure should NOT be donated. Any foods with visible damage or noticeable odour, e.g., soaked through with an unknown liquid or packaging that smells of smoke, should be discarded.

### **Damage to packaging affecting the safety or suitability of the contents**

Excessive damage to packaging so that the internal contents are leaking or exposed to potential contamination, such as the muffin mix or salad dressing shown in Table 1, would be considered unacceptable package damage. Damage to packaging can occur from many sources: physical mishandling, insect and rodent damage, signs of spills or stains of unknown origin, or if the label itself has been damaged so that the contents are unknown, or crucial information about the product (e.g., allergens) are unknown. Products with missing labels may be accepted when the donor provides documentation of the product and its contents (i.e. ingredients, allergens and best before dates), and/or the food rescue organization labels the product with information received by the donor.

Table 1 – Categories and examples of unacceptable packaging damage<sup>1</sup>

<p><b>1</b>    <i>Rips, tears, punctures, holes</i>          Leaking          Imperfect seals          Moldy or foreign objects inside</p>	
<p><b>2</b>    <i>Insect damage</i>          Insects in seams of package          Bore holes          Movements or spots in products          Insect skins (or chaff in bottom of container)</p>	
<p><b>3</b>    <i>Rodent damage</i>          Droppings          Urine stains (use black light to detect)          Gnaw marks</p>	
<p><b>4</b>    <i>Spill or stains from unknown contaminant</i>          Unknown contaminant          Flood or fire damage</p>	
<p><b>5</b>    <i>Label damage</i>          Label is missing          Label is unreadable/illegible          Ingredients are unknown          Best before date, use-by, or expiry date is unknown</p>	

**Signs of insects or rodents on packaging**

Donated and recovered food should not be used if there are signs of insect and rodent damage. Rodent droppings and feces may carry diseases that could be transferred by touching packaging as well as eating the contaminated food. More information about controlling pests can be found in section 9.

- Signs that insects or rodents have contaminated food include:
- Signs of rodent droppings on packages or in boxes of donated food;

- Urine marks either visible to the eye or visible under black light (UV light);
- Casings or webs left behind by insects on packaging; or
- Damage to packaging caused by rodents.

If the outer box or wrapping of food is found to be damaged by rodents or insects it is advisable to discard this food product. An ultraviolet light may be used to assess food and packaging for rodent droppings, including urine. An example of packaging compromised by rodents and insects is shown below (Figure 2).



Figure 2 – Rodent damage to packaging<sup>1</sup>

### **Compromised vacuum seal (i.e., can, jar, vacuum package defects)**

Defects that compromise the vacuum seal in packaging may occur with any combination of factors that compromise the food products integrity. These include improper seals from flawed processes, and damage or dents to the exterior of the packaging from rough handling. Some types of defects include:

- sharp dents or dents in the seam;
- corrosion marks, pitting, rusting or leaking from the can;
- swollen or bulging cans;
- damage to the can ends;
- score marks on the can that may affect the integrity of the metal;

- cut seams, punctures or damage to the score-line (for pull-tab type cans) that may result in pinholes or leakage; and
- Damage that results in disturbing the vacuum seal.

Examples of seriously compromised cans are shown below in Figure 3. Minor dents that do not compromise the seams may be acceptable to receive. The top row of cans are not acceptable since the cans are clearly bulging, indicating gas formation from bacterial activity and should be discarded.



Figure 3 – Cans rejected for donation and discarded<sup>1</sup>

The dents in the second row of cans are too severe to accept. Dents that may affect the seams can destroy the can integrity and may allow intrusion of bacteria.

## Other package damage and labelling

Packages will need to be assessed individually based on the extent of the damage to the interior packaging and to the labels. If the only visible damage is external, and the interior packaging is intact, then the food may be acceptable for donation. Note, If hermetically sealed packages are damaged and the vacuum seal is broken; even if the inner contents are not damaged, the product will not be safe.

Package damage can sometimes be managed if the inner contents are not damaged or exposed. Examples of packaging damage from a box cutter with packaged soup and arrowroot biscuits are shown below (Figure 4). In each of the photo groups, a cut into the outer box has occurred **(A)**:



Figure 4 – Acceptable and unacceptable packaging for food damaged by a box cutter<sup>1</sup>

**Soup packages:** the soup packages labelled **B** are acceptable. The name of the food and the date code markings are stamped onto the internal packages. These can be given out without further modification. The inner packages marked as C should not be accepted. The soup package shown in C are damaged; the box cutter has sliced into this package and contents are leaking out.

**Cookies:** The cookies in **B** have been put into a bag and labelled with the name of the product and the best before date; but this is still not acceptable. For safety, food allergens should be labelled. These cookies contain wheat, an allergen, and this should also be noted on the package. The cookies inside the package marked **C** are individually wrapped but are not labelled. The unlabelled cookies in **C** would be considered unacceptable, even though there is no packaging damage. A decision tree to aid in evaluating boxes is shown in Appendix D.

## Interpreting food packaging dates for safety

There are several terms used to describe dates on food packaging. Expiry dates provide a limit for product nutritional quality (i.e. after the expiry date the product should not be used). All other dates, (i.e., best before dates, durable dates, and use-by dates) address quality (not safety) of the food.

## Best before dates and durable dates

Best before dates and durable (life) dates are equivalent terms. Regulatory agencies tend to use the latter term, while consumers are more familiar with best before date. The best before and durable life date anticipates the amount of time that an unopened food product, when stored under appropriate conditions, will retain its freshness, quality and taste. Best-before dates are not a guarantee of product safety.

In Canada, the best before date is written in English and French, as *meilleur avant*.<sup>11</sup> Storage instructions (e.g., whether foods should be refrigerated), also accompany the best before date on the food label. Another method of labelling may include the “packaged on” date that includes how long the food will retain freshness (e.g., “packaged on AL 04, consume within 30 days”).

Best before dates only apply to unopened foods. Once food packaging is opened, the best before date cannot be used as a guide. The most important issue to recognize is that the best before date is NOT an indicator of food safety. A best before date is only an indicator of food quality, meaning foods properly stored and handled should retain their nutritional and sensory (taste, smell, texture) qualities. Operators may receive food, such as meat past the best before date if the product was frozen prior to the best before date and the operator is assured the donor used proper conditions to maintain the product safety.

Types of foods that may be acceptable to use past their best before date, if unopened and appropriately stored, include but not limited to:

- jams
- condiments
- yogurts and cheese dairy products
- frozen meats and meals

- Safety-related expiry dates on infant formula products and adult nutritional supplements should not be exceeded.
- Best before dates relate to product quality and may be exceeded. Food items will need to be evaluated on a case by case basis.

- tetra-pack juices
- salsa, tomato sauce
- salad dressing
- breads
- low risk baked goods

Commercial food processors and manufacturers usually have a 1-800 number that can be contacted for advice on dates that have been exceeded. Industry suppliers of foods may also be contacted directly to supply the food rescue organization with revised best before dates.

## **Expiry dates**

Expiry dates must be placed onto certain categories of foods that are specifically designed to meet nutritional needs<sup>5</sup>. These include baby or infant formula (human milk substitutes), nutritional supplements, meal replacements, low energy diet foods (prescribed), and formulated liquid diets. Do not use any of these products past the labelled expiry dates or if the expiry date is removed or not visible.

## **Use by dates**

This type of date, the use-by date (employez avant), is placed onto certain food ingredients, such as yeast. Companies' place these types of dates onto foods to let the consumer know the date to which effectiveness of the product is assured. Foods, such as yeasts, can be used/consumed after the use by date. (Yeast can be "proofed" to test effectiveness and avoid potential product losses due to yeast failure.)

## **Food labels**

Food labels are important tools to provide information required for safety and traceability and include:

- Product name;
- Ingredients with allergens declared;
- Best before date /expiry date /use by date; and
- Source of food.



## Repackaging food

The source of food should be traceable back to the supplier of the food. If repackaging food, information provided on the original packaging describing the lot or batch of food should be recorded so that it can be identified in case of illness or recall. This level of detail does not need to be contained on the label for the repackaged foods, but should be available in some other form, such as a log sheet or computer file.

If the product that is being repackaged has a best before date or expiry date, this information should be transferred or copied onto the repackaged item. Sometimes industry will donate foods that have been improperly packaged or labelled. The food inside the package is edible, but was put into the wrong packaging, e.g., a granola bar with nuts was incorrectly placed into a granola bar with raisins package. If the food donated contains an allergen that is not declared on the container or packaging, this information is provided by affixing a new label to the packaging.

**Allergens and food sensitivities can cause very serious adverse health effects (hives, anaphylaxis, sometimes death)<sup>6</sup>.** See Appendix E for example tools.

## Food Safety

The following guidelines are intended to assist food rescue, food banks, and community meal programs in striking a balance of optimizing recovery of excess food without compromising food safety. For additional information on safe food handling requirements refer to the [Food Premises Reference Document<sup>7</sup>](#).

### Food categories

Decisions to donate food, and to accept or reject donated food is dependant on several factors. The following categories can help determine the relative food safety risks associated with various kinds of food and provide guidance on what precautions should be taken.



Figure 5 – Food risk categories

## Low risk food

Low risk food is defined in the Food Premises regulation as food that is not potentially hazardous (i.e., does not require time and temperature control). However, it should be noted that some low risk food such as low moisture food (e.g., peanut butter), fresh fruits and vegetables can still become contaminated through handling or production processes and has been associated with foodborne illnesses and outbreaks.

Food in this category can include:

- shelf-stable food (items that do not require refrigeration);
- commercially canned or pasteurised products;
- non-perishable food (dry goods such as flour, sugar, pasta, breads and pastries without cream fillings); and
- some perishable food such as whole, intact, raw fruit and vegetables.

## Potentially hazardous food

This category includes food that supports the growth of micro-organisms, which requires time and temperature control to limit such growth.

Food in this category includes dairy products, eggs and egg products, tofu products, meat and meat products and prepared dishes. Precautions to be taken when accepting potentially hazardous food include:

- a) **milk and milk products** including cream and cream products, ice cream, frozen desserts, yogurt and similar food must be pasteurized, held in a refrigerator at 4°C (40°F) or lower or kept frozen and distributed in the original unopened containers.
- b) **meat and meat products** must only be accepted from inspected sources and held at 4°C (40°F) or lower or kept frozen and received in the original unopened packages. If meat or meat products require further food handling activities such as cutting and/or repackaging, food safety practices should be taken to ensure the prevention of cross-contamination.
- c) **eggs and egg products** should be refrigerated. Ungraded, or graded C domestic hen eggs must not be received, donated or served. Eggs other than hen eggs should be clean, with no visible cracks.
- d) **Prepared meals** should be cooled and held at 4°C (40°F) or lower or kept frozen or held at 60°C (140°F) or higher. Prepared foods must not have been served to customers prior to donation.

### **Ready-to-eat food**

Pre-packaged ready-to-eat food is food that is packaged at a premise other than the premises at which it is offered for sale and does not require further preparation before eating. Examples include pre-packaged yogurt, cheese, salad, deli meats, etc. Ready-to-eat food is prepared so that it can be consumed as is, without any additional cooking. In many, but not all cases, ready-to-eat food is purchased as pre-packaged. Ready-to-eat food can be refrigerated, shelf-stable, or require minimal heating. Often, ready-to-eat food that requires temperature control such as refrigeration or hot-holding for safety reasons is considered potentially hazardous (if the food items are capable of supporting the growth of pathogenic bacteria). Note, the importance of minimizing nutrients of concern that contribute excess sodium, free sugars and/or saturated fats as defined by the Federal Dietary Guidelines<sup>8</sup>.

## Food not suitable for donation

All food items should be sourced from an inspected food premises. Food prepared in a private home should not be donated. The only permissible food from a private home that can be donated is store bought, non-perishable shelf-stable food. However, a home-based food premise that is inspected by the local public health unit may donate prepared food. Note: See Appendix F for information related to wild game dinner and events.

Examples of food that **cannot** be donated by individual members of the public or inspected food premises include but is not limited to:

- a) private home-canned food (vegetables, meat, fish, fruit, preserves, jams, jellies etc.);
- b) unpasteurized juices and dairy products (not heat-treated), due to risk of pathogenic microorganisms;
- c) private household food stored in refrigerator or freezer;
- d) partially consumed food, regardless of source;
- e) foods that have been served to the public, including on hot or cold buffets, passed appetizers, sandwich trays etc. due to potential time/temperature abuse and cross contamination; and
- f) food or drinks with alcohol, cannabis edibles, or medical ingredients.

## Receiving refrigerated and frozen perishable food

Staff and volunteers may be required to make judgements on the suitability of food for their clients. Perishable food may be either potentially hazardous or low risk food. Food safety and quality can be checked by assessing:

- (1) the donors' information and history of the product prior to its donation;
- (2) observe how the food looks (in terms of packaging, and sensory aspects);
- (3) the temperature of the food on arrival; and how long the food has been in transport.

- (4) How long overall the food has been in storage (held at temperatures above and at refrigeration temperatures 4°C (40°F) or below (if possible).

The two (2) perishable food decision trees found in Appendix D can be used as a guide to determine whether a food is suitable for further storage, should be served immediately, or discarded.

### **Prepared food**

Food rescue organizations that have arrangements with restaurants, caterers, or other retail operations that are offering to donate hot-held prepared food should only accept food that meets the following criteria below:

1. prepared food must either be hot-held at temperatures of 60°C (140°F) or hotter; refrigerated at temperatures at 4°C (40°F) or colder or frozen solid;
2. prepared food must not have been exposed or offered to the public (e.g., in a buffet); it may be acceptable for donation if held hot or refrigerated in the kitchen in covered containers without being offered for service; or
3. Chilled prepared food is acceptable if the food item was cooled in accordance with recommended cooling parameters.

## Food Processing

### **Personal hygiene**

To prevent the spread of harmful microorganisms, all operators, employees and volunteers that work in direct contact with food must:

- not use tobacco or cannabis while engaged as a food handler. Smoking, vaping and using e-cigarettes in an enclosed workplace is prohibited in Ontario and tobacco is not to be used while handling food;
- wear clean clothing;
- take precaution to ensure that food is not contaminated by hair. This may include the use of hair nets, baseball caps, visors and beard nets at the operator's discretion as long as the outcome is adequately protecting food from contamination;
- wash hands often to prevent the contamination of food or food areas. This must include before commencing work, each time after using the bathroom, when

returning from a break, after consuming food, after handling raw food products, or any other activity or instance where hands may become soiled;

- wash hands by vigorously rubbing together the surfaces of the lathered hands and exposed arms for at least 20 seconds followed by rinsing with clean water. Particular attention should be given to the tips of the fingers and between the fingers where food contact is most likely to occur;
- not be permitted to handle food until symptom free for 24 hours from an infectious illness that may be spread through food, or symptom free for 48 hours from diarrhea and vomiting. Many human illnesses can be transmitted to food directly from sneezing and coughing, or indirectly from vomiting or diarrhea if proper hygienic practices are not used. It is important to prevent the food from becoming contaminated with harmful bacteria (pathogens). It is also important to note that bacteria or viruses can be shed by a food handler even after symptoms resolve, if the individual does not practice adequate hand washing or personal hygiene.

## **Temperature and time control for safety**

All potentially hazardous food must be maintained at a safe internal temperature to prevent growth of pathogens and production of toxins. To ensure potentially hazardous food is safe to eat, it is important to keep cold food cold (4°C/ 40°F or below), and hot food hot (60°C /140°F or above). Ensure refrigerators and freezers have accurate thermometers to monitor and record the temperature throughout the day. A cleaned and sanitized probe thermometer should also be used to check the internal temperature of potentially hazardous food to ensure the appropriate temperatures are maintained.

The "danger zone" refers to inadequate storage temperature of food held above 4°C (40°F) and below 60°C (140°F). Bacteria can grow outside of this temperature range but grow more rapidly in the danger zone. Potentially hazardous food must not be held in the danger zone for more than two (2) hours. The following sections provide more detail on maintaining appropriate food temperatures.

## Refrigerated food

It is important to store potentially hazardous food in a refrigerator held at a temperature of 4°C (40°F) or lower. While most bacteria will not grow at refrigeration temperatures some are tolerant to cold conditions. These can include spoilage bacteria and some harmful bacteria.

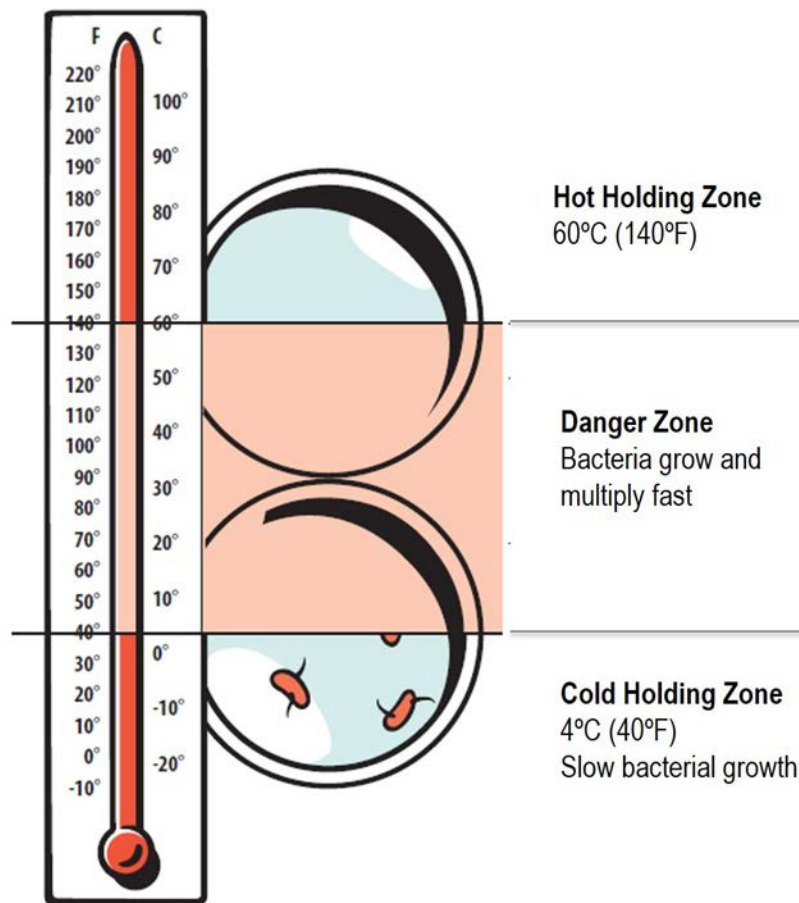


Figure 6 – Temperature controls for food<sup>9</sup>

## Cooling food

When donating prepared hot meals, it is often safest and easier for food rescue organizations to transport the food once it has adequately cooled. When cooling food, it is important to minimize the time food spends in the danger zone to limit bacterial

growth. Cooling food rapidly will help prevent bacterial growth and bacterial toxin formation in the danger zone temperatures.

The Food Premises Reference Document provides best practices for temperature and time limits to cool hot food. The best practice to cool food is in accordance with the below parameters:

- Cool hot food from 60°C (140°F) to 20°C (68°F) within two (2) hours; and
- from 20°C (68°F) to 4°C (40°F) within four (4) hours.

For example, to cool a pot of hot soup, chill the soup within two (2) hours to 20°C (68°F), then down to 4°C (40°F) or colder within the next four (4) hours.

It is not recommended to place hot food directly into a refrigerator to cool, as this can result in the refrigerator temperature rising above 4°C, potentially putting other refrigerated food at risk. There are many methods to rapidly cool large portions of food, here are a few examples:

1. portion food into several smaller containers (e.g., 5L instead of 20L);
2. put food into shallow containers (e.g., 10cm depth instead of large pot);
3. use a frozen ice-wand to stir and cool put large pots into sinks filled with cold water and ice and stir to cool;
4. refrigerate or freeze after following the above steps.

## **Frozen food**

Frozen food should be held in a frozen state to maintain food safety. To maintain food quality, the storage will depend on the adequate seal and type of packaging. General food storage time to ensure quality control can range from one (1) month to one (1) year.

It is important to monitor for food rancidity and freezer burn (e.g., when meat proteins have white marks on the edges). Fats that have gone rancid from prolonged storage in the freezer may make the fish flesh appear yellow. This may be due to poor packaging or storage that has caused the freezer burn. An example of freezer-burn and rancid fish is shown in Figure 7. This photo displays the build-up of ice crystals inside the package, likely caused by a combination of a poor



packaging seal and the storage temperature not being cold enough. This fish would not be palatable for consumption.



Figure 7- Freezer-burn<sup>10</sup>

### Hot holding food

Potentially hazardous food that has been prepared, cooked, and is intended to be served hot, must be held at a temperature of at least 60°C (140°F).

Ensure equipment for hot-holding of potentially hazardous food is of sufficient size and contains an accurate indicating thermometer that is easy to read. As a best practice the holding temperature should be checked every two hours.

### Cooking and Reheating food

Potentially hazardous food should be cooked or reheated to the minimum internal temperature specified in the table below and the temperature should be held for at least 15 seconds to ensure the food item is safe to eat. Internal temperatures can be verified through use of a cleaned and sanitized probe thermometer.

Table 2- Minimum recommended heating and reheating internal temperatures

Item	Minimum Internal Cooking	Minimum Reheating
Whole poultry	82°C (180°F)	74°C (165°F)

Item	Minimum Internal Cooking	Minimum Reheating
Ground poultry, poultry products, poultry pieces	74°C (165°F)	74°C (165°F)
Food mixtures containing poultry, eggs, meat, fish or other hazardous food	74°C (165°F)	74°C (165°F)
Pork, pork product, ground meat other than ground poultry	71°C (160°F)	71°C (160°F)
Fish	70°C (158°F)	70°C (158°F)
Seafood	74°C (165°F)	74°C (165°F)
Egg dishes	74°C (165°F)	74°C (165°F)

## Recommended food storage times

Follow labelling instruction for storage times. In general, when no instruction is available on the product label, use the table below<sup>11</sup>.

Table 3- Recommended storage times for refrigerated perishable food items.

Food products	Hold in refrigeration temperatures of ≤4°C
Raw meats (beef, pork, lamb)	2 to 4 days
Raw meats (poultry)	2 to 3 days
Luncheon meats hot-dogs	3 to 5 days; 2 weeks (unopened) 1 week (if opened); 2 weeks (unopened)
Unopened dairy products	Best before date
Opened dairy products (milk, cottage cheese, yogurt)	3 days
Cheeses, soft varieties	1 to 2 weeks; hard varieties: several months
Fresh vegetables	1 to 2 weeks

Food products	Hold in refrigeration temperatures of $\leq 4^{\circ}\text{C}$
Leftovers	3 to 4 days

## Cleaning and Sanitation for Equipment, Food Contact Surfaces and Utensils

Equipment and utensils used for handling and storing food, and all surfaces that come into contact with food (e.g. counter tops) should be made of non-toxic, non-corrosive materials and should be easily cleanable. Equipment should be installed and maintained to facilitate cleaning and be kept in good repair. Utensils and food contact surfaces should be thoroughly cleaned and sanitized before use (Figure 8).



Figure 8 – Four basic steps for cleaning equipment and utensils

To properly clean equipment and dishware follow this basic procedure:

1. scrape off excess food;
2. pre-rinse;
3. wash in hot water and detergent;
4. rinse;
5. sanitize; and
6. air dry.

Note: some equipment should be fully dismantled to be properly cleaned and sanitized.

Utensils shall be sanitized through the use of,

clean water at a temperature of at least  $77^{\circ}\text{C}$  ( $170^{\circ}\text{F}$ ), or more, for at least 45 seconds;

a clean **chlorine solution** of not less than 100 parts per million of available chlorine at a temperature not lower than 24° C (75°F) for at least 45 seconds;

a clean **quaternary ammonium compound** solution of not less than 200 parts per million at a temperature not lower than 24° C (75°F) for at least 45 seconds;

a clean solution containing not less than 25 parts per million of available **iodine** at a temperature not lower than 24° C (75°F) for at least 45 seconds; or

**other sanitizing agents** if,

- they are approved for use by Health Canada, the CFIA or the medical officer of health for the intended purpose;
- they are used in accordance with the manufacturer's instructions; and
- a test reagent for determining the concentration of sanitizer is readily available where the sanitizing takes place.

For dish and equipment surface sanitizing use a minimum of 100ppm bleach solution. To achieve this concentration with domestic bleach:

- 5% domestic bleach: use 2 ml bleach per litre (1000 ml) of water.
- 3.25% domestic bleach: use 3 ml bleach per litre (1000 ml) of water.

Note: One teaspoon is approximately 5 ml in volume. Using the guidelines above, one full teaspoon of regular 5% domestic bleach in two litres of water would result in about 125 ppm chlorine.

For further assistance in determining the calculations, Public Health Ontario provides a bleach dilution calculator online.

For dishware and utensils being cleaned using mechanical dishwashing, the mechanical dishwashers must provide:

- clean wash water maintained between 60° C (140°F) to 71° C (160°F);
- the sanitizing rinse water is maintained at a temperature not lower than 82° C (180°F) and is applied for a minimum of 10 seconds in each sanitizing cycle, or is a chemical solution as prescribed by the regulation;

- provided with thermometers that show wash and rinse temperatures and are located to be easily read; or
- a mechanical dishwasher that bears a certification from NSF International that certifies it for commercial use; or
- or an alternative mechanical washer, if the Medical Officer of Health is satisfied that the mechanical dishwasher will effectively clean and sanitize utensils and is appropriate for use at the food premise.

Some flexibility may be permitted for emerging technologies that, upon technical and scientific review, can be granted approval by the local Medical Officer of Health. There are instances where residential dishwashers have been requested for use in limited settings such as child care programs due to the low volume of dishware used in the premise. NSF/ANSI Standard 184 Certified residential dishwashers could be considered as an alternative if the model is deemed to meet the 5-log bacterial load reduction when operated per manufacturer's instructions.

## Building Premises Construction, Maintenance and Safety

### Construction and maintenance of physical facilities

General criteria for physical facilities are shown below. For more information consult with the local public health unit and local building officials for specific requirements.

The Ontario Building Code sets out the technical requirements that govern the construction, renovation, demolition and change of use of buildings. The local building official should be consulted to determine the applicable building code requirements that must be satisfied, and the necessary building permits must be obtained for any construction, renovation, demolition and change of use of buildings.

For new operations, a notice must be provided to the local public health unit that includes contact information, name, and location of the food premises. The physical

facility should be designed for the intended food storage, preparation, service and display of food including but not limited to:

- (1) A source of potable hot and cold running water;
- (2) Sanitary maintenance of wastes, ensuring garbage and waste is collected and removed from a food premise as often as is necessary to maintain the premise in a sanitary condition. It is recommended to ensure that adequate space is available for the storage of various waste receptacles within the facility (e.g., recycling, organics, residual waste);
- (3) Floors, walls and ceilings are maintained in a sanitary condition, kept clean and in good repair;
- (4) Storage should be adequate for the size and operational demands, and include mechanical refrigeration space, thermometers and other equipment if needed for operation;
- (5) An adequate number of hand washing sinks that are equipped with liquid soap and paper towel;
- (6) A dedicated janitorial/mop sink is recommended;
- (7) Lighting should be adequate with shielded light bulbs to protect against broken glass falling onto unpackaged food;
- (8) Buildings should be ventilated well enough so that condensation does not form and drip onto food or food preparation surfaces. Food should not be stored under plumbing pipes or other pipes that could leak their contents or condensation onto food or food preparation surfaces;
- (9) Sanitary facilities (washrooms) including rooms and fixtures should be kept clean and in good repair at all times.

Refer to the Food Premises regulation for all applicable requirements.

## **Pest control**

Rodents, insects, and other animals must be prevented from entering a food premise. Seal gaps and entry points, and when possible cover and protect all food items in closed containers. Keep window openings screened to limit insect entry

and use sticky paper or other measures to trap insects. It is important to ensure the food premise is kept in a condition that prevents the harbouring or breeding of pests. When required, pest control companies can be contacted to set up contracts for checking pest control traps. Signs of rodent entry may not be easily identified, and experts can assist in finding solutions. Whether a food premise has a contract with a pest control company or manages pest control on their own, all records of pest control measures that are undertaken must be kept on file for at least one year.

Examples of rodent droppings are depicted below.




<b><i>Norway Rat (Sewer Rat)</i></b>	<b><i>Roof Rat</i></b>	<b><i>House Mouse</i></b>
		
<p>Blunt Average length 2 cm (¾")</p>	<p>Pointed Average length 1.3cm (½")</p>	<p>Pointed Average length 0.5 cm (¼")</p>

Figure 9 – Rodent droppings<sup>1</sup>

## Food Transportation and Vehicles

Food that is potentially hazardous and requires refrigeration is vulnerable to temperature abuse. Food may also be exposed to chemicals and other adulterants during transport by vehicles. Food can be rejected due to inadequate storage.

Preventative controls during transport to consider include<sup>12</sup>:

- Appropriate temperature control during transport;
- Sanitation controls that include:
  - Ensuring sanitation of the vehicle
  - Pest control to control for rodents

- Sanitation during loading and unloading procedures;
- Appropriate packaging and packing of food products (good quality pallets);
- Good communication between shippers, transporters and receivers;
- Employee training; and
- Documentation.

Food in vehicles should be kept covered at all times to protect it from dust, insects and other sources of contaminants. Clean containers, cooler chests and packaging for transporting foods should be used (e.g., boxes for tinned food). Reusable containers should likewise be regularly cleaned and sanitized after each use. Loading areas and docks should be kept clean and free of debris so that incoming food does not pick up unwanted contamination.

## Glossary

**Best before date:** also known as the durable date. Best before dates are an indicator of food quality, meaning foods properly stored and handled should retain their nutritional and sensory (taste, smell, texture) qualities by this date. A best before date makes no claims on the safety of the food. Best before dates are intended as guides for the consumer.

**Charitable purpose:** means a conservation or other efforts to protect or conserve wildlife, fish or their habitats, or any other purpose beneficial to the community.

**Charity:** an organization registered as a non-profit society and as a registered charity that provides assistance to people in need.

**Danger zone:** refers to inadequate storage temperature of potentially hazardous food, held above 4°C (40°F) and below 60°C (140°F).

**Donor:** any individual, organization, or business who gives food without requesting financial compensation.

**Durable date:** see **best before date**



**Expiry date:** Expiration dates are required only on certain foods that have strict compositional and nutritional specifications which might not be met after the expiration date.

**Food bank:** term used for grocery or bag programs. Food banks may or may not be registered charities or societies. Food banks are non-profit organizations that operate with the exclusive intent of feeding the hungry. Food banks perform a number of functions including receiving, holding, storing, packaging, repackaging and distributing food to be consumed off the premises, but do not process food.

**Food rescue organizations:** are recipients of food donations who distribute these foods to food charities or clients in need via a variety of methods. Food rescue organization categories are listed below along with brief descriptions of how they work:

1. Food Banks or other agencies with food pantries: for distribution to clients
2. Meal programs (e.g. breakfast programs): food premises for food service directly to clients.
3. A non-profit organization that (a) operates with the exclusive intent of feeding the hungry, and (b) receives, holds and processes food to be consumed on the premises
4. Retail outlets: for at cost and reduced cost food sales to clients
5. Social enterprises: for culinary training schools; non-profit restaurants; school activities
6. Community Kitchens: Agencies will often facilitate a group of individuals that cook, and often eat, healthy, nutritious meals together.

**Food donation:** foods provided by individuals, organizations, or businesses. Food donations may be purchased and donated, surplus or imperfect items that will not be sold at retail or recovered food that is suitable for human consumption but deemed not suitable for retail sale.

**Food drives:** a common way for the public to donate to food banks and other agencies. Food donated by schools, churches, grocery store customers is purchased, retail quality food. Most often it is shelf-stable food that doesn't require

refrigeration and so is easily distributed by agencies. These donated foods are the same quality as what would be found on store shelves.

**Food processing:** to make food ready-to-eat. This includes cooking, reheating and reprocessing of previously processed food.

**Perishable:** liable to spoil or decay. Examples include fruits, vegetables, butter, eggs etc.

**Potentially hazardous food:** food that is considered potentially hazardous is defined classically as food with a pH of  $>4.6$  and an  $A_w$  (water activity) of  $>0.85$ . Potentially hazardous food is food that can support the growth of micro-organisms and requires time and temperature controls to limit such growth. Foods such as meats, fish, poultry, eggs, dairy products, and prepared foods are typical of PHF.

**Shelf-stable:** Food items that do not require refrigeration.

\*Appendices are found in the Food Donation Supplemental Materials document.

## References

---

<sup>1</sup> BC Centre for Disease Control, Food Banks BC, Greater Vancouver Food Bank Society, Ministry of Health, Dietician Services at Health-Link BC, Interior Health Authority, and Vancouver Coastal Health Authority. Guidelines for food distribution organizations with grocery or meal programs. May 2015. Available on this site: <http://www.bccdc.ca/health-professionals/professional-resources/food-donation-guidelines>

<sup>2</sup> Ontario. Ministry of Health and Long-Term Care. Ontario public health standards: requirements for programs, services, and accountability, 2018. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: [http://www.health.gov.on.ca/en/pro/programs/publichealth/oph\\_standards/default.aspx](http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/default.aspx)

<sup>3</sup> Value Chain Management International (2014). Food waste in Canada- \$27 Billion revisited: the cost of Canada's annual food waste. Available from: <https://vcm-international.com/food-waste/food-waste-publications/>

<sup>4</sup> Centre for Disease Control. How Food Gets Contaminated - The Food Production Chain. 2017. [Cited Feb 12, 2020]; Available from: <https://www.cdc.gov/foodsafety/production-chain.html>

<sup>5</sup> Government of Canada (2019). Canadian Food Inspection Agency: Date labelling on pre-packaged products. Available from: <https://www.inspection.gc.ca/food-safety-for-industry/information-for-consumers/fact-sheets-and-infographics/date-labelling/eng/1332357469487/1332357545633>

<sup>6</sup> Health Canada. Food Allergies. 2018 [Oct 10, 2019]; Available from: <http://www.hc-sc.gc.ca/fn-an/securit/allerg/fa-aa/index-eng.php>.

<sup>7</sup> Ontario. Ministry of Health and Long-Term Care. Food Premises Reference Document, 2019. Toronto, ON: Queens Printer for Ontario; 2019. Available from: [http://www.health.gov.on.ca/en/pro/programs/publichealth/oph\\_standards/reference.aspx](http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/reference.aspx)

<sup>8</sup> Health Canada (2019). Canada's Dietary Guidelines. [Cited 2020 Feb 13]. Available from: <https://food-guide.canada.ca/en/guidelines/>

<sup>9</sup> Ontario. Ministry of Health and Long-Term Care. Provincial Food Handler Training Manual, 2018. Toronto, ON: Queens Printer for Ontario; 2018. Available from: <http://www.health.gov.on.ca/en/pro/programs/publichealth/enviro/>

<sup>10</sup> Demsky, A. Rancid fish #30. 2009.

<sup>11</sup> Government of Canada (2014). Safe food storage. Available from: <https://www.canada.ca/en/health-canada/services/general-food-safety-tips/safe-food-storage.html>

<sup>12</sup> Ryan JM. Guide to food safety and quality during transportation. Controls, standards and practices. San Diego, CA: Academic Press, Elsevier; 2014.