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# Hazard analysis approaches for certain small retail establishments and food donations

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## Hazard analysis approaches for certain small retail establishments in view of the application of their food safety management systems

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### Abstract

Under current European hygiene legislation, food businesses are obliged to develop and implement food safety management systems (FSMS) including prerequisite programme (PRP) activities and hazard analysis and critical control point principles. This requirement is especially challenging for small food retail establishments, where a lack of expertise and other resources may limit the development and implementation of effective FSMS. In this opinion, a simplified approach to food safety management is developed and presented based on a fundamental understanding of processing stages (flow diagram) and the activities contributing to increased occurrence of the hazards (biological, chemical (including allergens) or physical) that may occur. The need to understand and apply hazard or risk ranking within the hazard analysis is removed and control is achieved using PRP activities as recently described in the European Commission Notice 2016/C278, but with the addition of a PRP activity covering 'product information and customer awareness'. Where required, critical limits, monitoring and record keeping are also included. Examples of the simplified approach are presented for five types of retail establishments: butcher, grocery, bakery, fish and ice cream shop.

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In the 2017 Opinion, a **simplified approach to food safety management** is developed based on a fundamental understanding of processing stages and activities contributing to increased occurrence of hazards

- Formulates guidelines on how to **identify the most relevant biological, chemical (including allergens) and physical hazards** along the production stages of five small food retail establishments
- **Retailer does not require specific knowledge of the hazard** but should be aware that 'biological', 'chemical', 'physical' or 'allergen' hazards may be present and also of activities that contribute to increased or decreased occurrence of the hazard
- In the five target retail establishments, **PRPs were sufficient** to assure food safety



1. Identify the 'Stages' in the retail establishment;
2. 'Hazard identification' ('B' biological; 'C' chemical, 'P' physical and 'A' allergen);
3. 'Activities contributing to an increased/decreased occurrence of the hazard'
4. 'Control activities'.

Stage	Hazard identification				Activities contributing to increased/decreased occurrence of the hazard	Control activities
	B	C	P	A		

- In 2017, EFSA received a request for a **second Opinion** focussing on restaurants, pubs, caterers, supermarkets, distribution centres and **food donations** at retail level

- Opinion was adopted by BIOHAZ Panel in September 2018 and published on 7 November 2018



The screenshot shows a news article on the EFSA website. The article title is "Food safety: simplified approach to make food donations easier", dated 7 November 2018. The main text states: "EFSA has developed a new food safety management approach that makes it simpler for small retailers to donate food. The simplified system would mean that retailers are not required to have detailed knowledge of specific hazards. It includes steps for checking that donated food is safe, such as shelf-life control, maintenance of the cold chain and ensuring communication between the donor and recipients." The article is categorized under "Biological hazards" and "BIOHAZ Panel on Biological Hazards". A "Related News" section includes a link to "Multi-country outbreak of Listeria monocytogenes linked to consumption of salmon products".

<http://www.efsa.europa.eu/en/efsajournal/pub/5432>

1. To identify and, if appropriate, rank the hazards in a restaurant, pub, caterer, supermarket and distribution centre and to describe appropriate control activities for the hazards identified including PRPs, CPs and CCPs and, where required, indicate critical limits and monitoring systems. The opinion might be limited to the consideration of regular consumers, not for specific more sensitive consumer groups (e.g. catering for hospitals).

2. To provide recommendations on additional hazards to be included in a FSMS within the frame of **food donations at retail level**. Such recommendations should cover all stages of food donations at retail starting from donations in relevant retail shops (including those covered by the first EFSA opinion and left-overs from restaurants or caterers), transportation, storage (at ambient temperature, chilled or frozen), distribution centres (e.g. food banks), processing and preparation for the final consumer (e.g. social restaurants).

- **Small retail establishment:** restaurant, pub or catering business or supermarket with <50 employees and an annual turnover of €10 million or less. These establishments require the 'simplified' HACCP approach developed in the first opinion
- **Food donations at retail level:** all food donations from retailers, i.e. restaurants, caterers and supermarkets, including those covered in the previous Opinion (butcher, grocery, bakery, fish and ice cream shops), regardless of the size of the retailer.





- PRP 1: Infrastructure (building and equipment);
- PRP 2: Cleaning and disinfection;
- PRP 3: Pest control: focus on prevention;
- PRP 4: Technical maintenance and calibration;
- PRP 5: Physical and chemical contamination from production environment;
- PRP 6: Allergens;
- PRP 7: Waste management;
- PRP 8: Water and air control;
- PRP 9: Personnel (hygiene, health status);
- PRP 10: Raw materials (supplier selection, specifications);
- PRP 11: Temperature control of storage environment;
- PRP 12: Working methodology;
- **PRP 13: Product information and customer awareness.**

PRPs 1-12:  
Commission Notice on the  
implementation of food safety  
management systems 2016/C  
278/01

- **PRP 14: Shelf-life Control**

FBO should routinely check foods to assure the removal of foods after expiry of the 'use by' date.

- **PRP 15: Handling Returned Foods**

If the food is to be donated it should be in proper condition and if there are any indications of damaged packing materials, temperature abuse, quality deterioration etc. these foods should be disposed of.



- PRP 16: Evaluation for food donation and allocation of remaining shelf-life

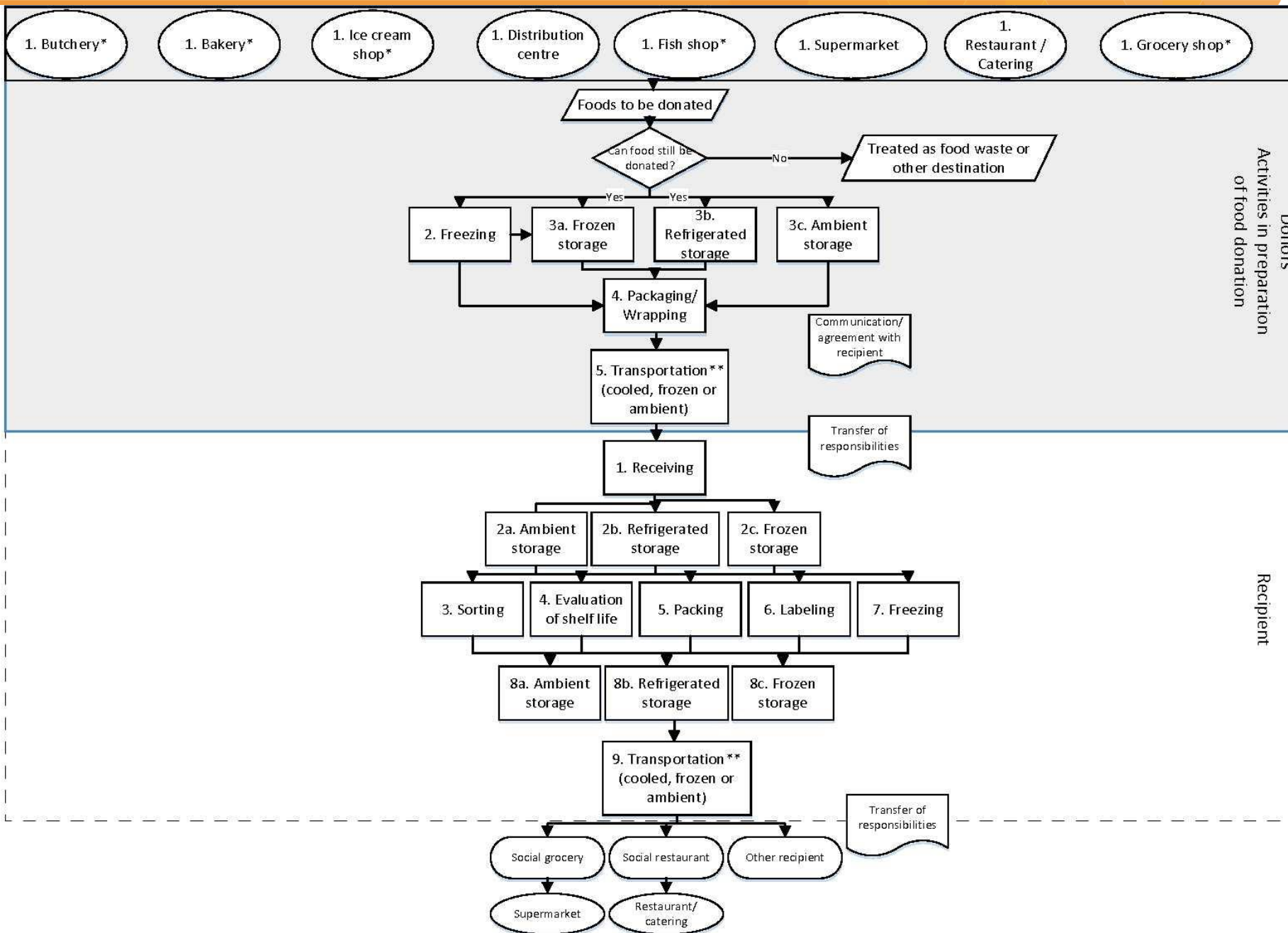
Foods placed on the market (incl. food donation) must not exceed the 'use by' date, during distribution nor before intended consumption. However, in the case of a 'best before' date, as food safety is not directly impacted, products exceeding this date could still be distributed for food donation purposes.



- **PRP 17: Freezing food intended for donation**

Freezing of food can be done both by food donors or recipients, if permissible by the member state and national provisions are respected. In doing so, the 'use-by' or 'best before' date can be extended. Packages should indicate the original 'use by' or 'best before' date (if provided) of the products and the date it was frozen and provide instructions for proper thawing practices.



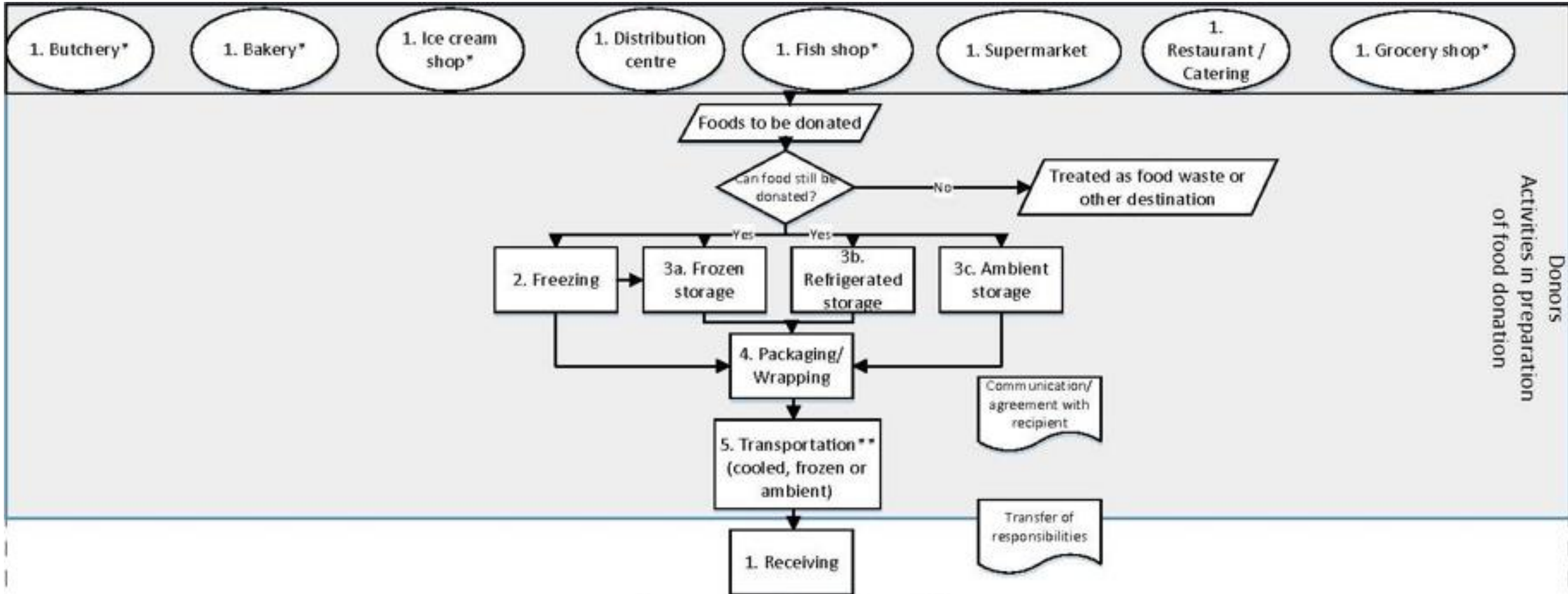


Flow diagram for food donations as basis for development of FSMS

\* EFSA BIOHAZ Panel, 2017

\*\* Transport can be done by donor or pick up by recipient (mutual agreement)

# Simplified FSMS: Donors



\*EFSA BIOHAZ Panel, 2017

\*\* Transport can be done by donor or recipient

# Simplified FSMS: Donors

Stage	Hazard identification <sup>(a)</sup>				Activities contributing to increased/decreased occurrence of the hazard	Control measures
	B	C	P	A		
<b>All stages</b>						PRPs 1, 2, 3, 9, 12
<b>Decision on foods to be donated</b>						
<b>Can food still be donated? Decision on acceptability of food to be donated</b>	Y	Y	Y	Y	A critical review has to be undertaken by the donating organisation to establish if foods are still suitable for donation based upon shelf-life evaluation, status of packing material, label information etc.	PRP 16: Evaluation for food donation and allocation of remaining shelf-life
<b>Freezing</b>						
<b>Freezing (pre packed foods)</b>	Y	N	N	N	Decision if pre-packed foods still can be frozen including ensuring there is sufficient shelf-life remaining.	PRP17 : Freezing for food donations
					Failure to ensure the microbiological quality of food products to be frozen (quick frozen)	PRP 11: Temperature control
					Reattributing a date of freezing - labelling	PRP17 : freezing for food donations

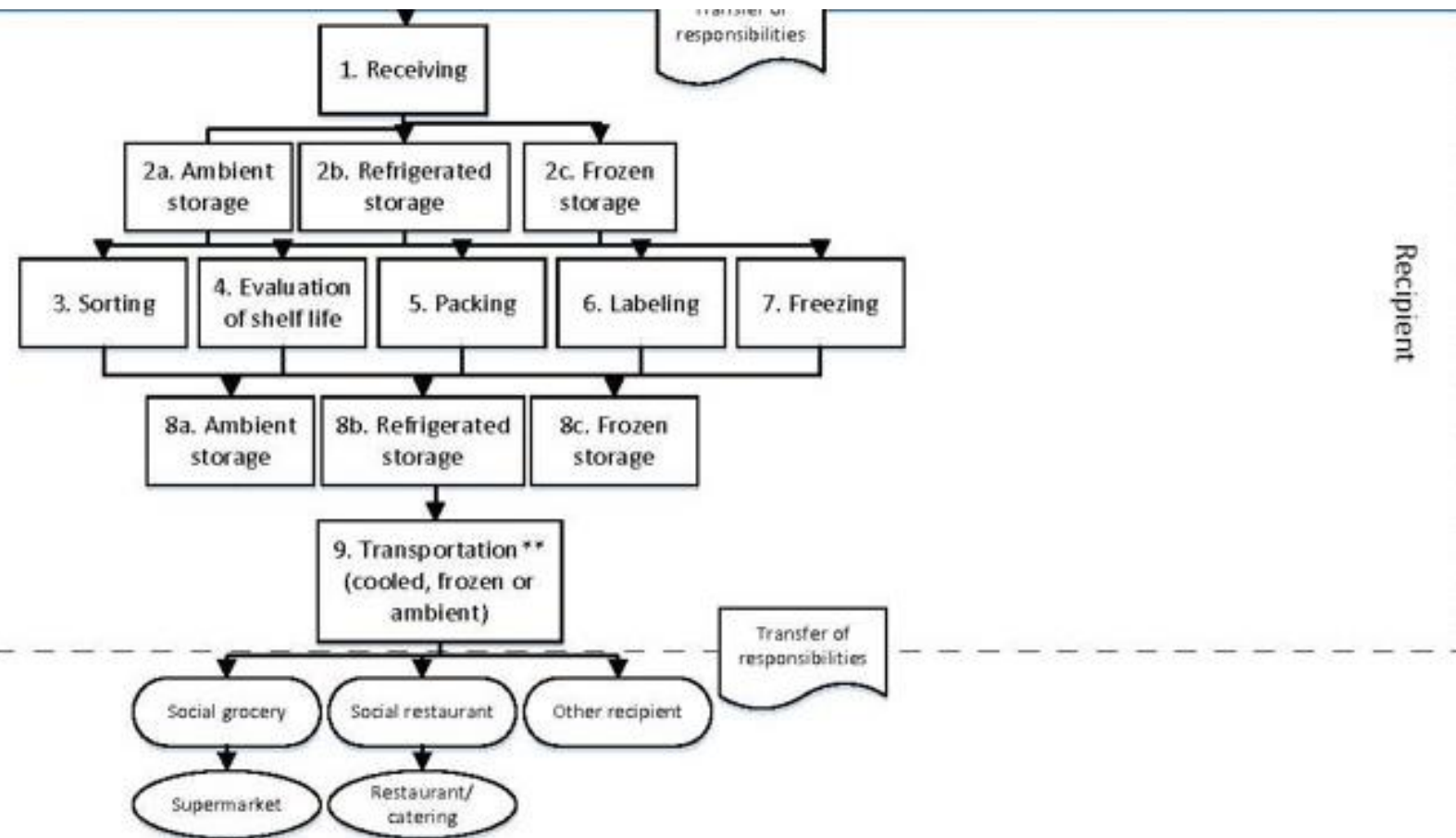
# Simplified FSMS: Donors

## Storage

Storage						
<b>Frozen storage</b>	Y	Y	Y	Y	Microbial growth due to failure in freezing temperature	PRP 4: Technical maintenance and calibration
						PRP 11: Temperature control
						PRP 14: Expiration date control
					Contamination with biological/chemical/physical hazards or allergens from the environment, personnel, etc.	PRP 5: Physical and chemical contamination from production environment
					PRP 6: Allergens	
<b>Refrigerated storage</b>	Y	Y	Y	Y	Microbial growth due to failure to chill properly (i.e. correct temperature and time), or due to storage for too long period	PRP 4: Technical maintenance and calibration
						PRP 11: Temperature control
						PRP14: Expiration date control
					Cross-contamination due to a failure to separate raw from cooked/RTE products	PRP 5: Physical and chemical contamination from production environment
						PRP 6: Allergens
				Contamination with biological/chemical/physical hazards or allergens from the environment,	PRP 5: Physical and chemical contamination from production environment	



# Simplified FSMS: Recipients



# Simplified FSMS: Recipients

Stage	Hazard identification <sup>(a)</sup>				Activities contributing to increased/decreased occurrence of the hazard	Control measures
	B	C	P	A		
<b>All stages</b>						PRPs 1, 2, 3, 9, 12
<b>Receiving</b>	Y	Y	Y	Y	Failure to ensure the microbiological quality of incoming raw materials	PRP 10: Raw materials (supplier selection, specifications)
						PRP 11: Temperature control
						PRP 14: Expiration date control
					Presence of chemical / physical hazards or allergens in incoming raw materials	PRP 6: Allergens
						PRP 10: Raw materials (supplier selection, specifications)
					Incomplete shelf-life data	PRP 14: Expiration date control
					Mixing returns with other products	PRP 15: Returns Management
<b>Storage</b>						
<b>Ambient storage</b>	Y	Y	Y	Y	see above	see above
<b>Refrigerated storage</b>	Y	Y	Y	Y	see above	see above

- The 'simplified' approach was applied for small retail distribution centres, supermarkets, restaurants (including pubs and catering) and food distribution
- Biological, chemical, physical or allergen hazards may be identified without knowledge of each specific hazard and ranking of the hazards was not required
- Based on analysis of the hazards and the fact that more sensitive consumer groups were not considered, PRPs were sufficient to assure food safety

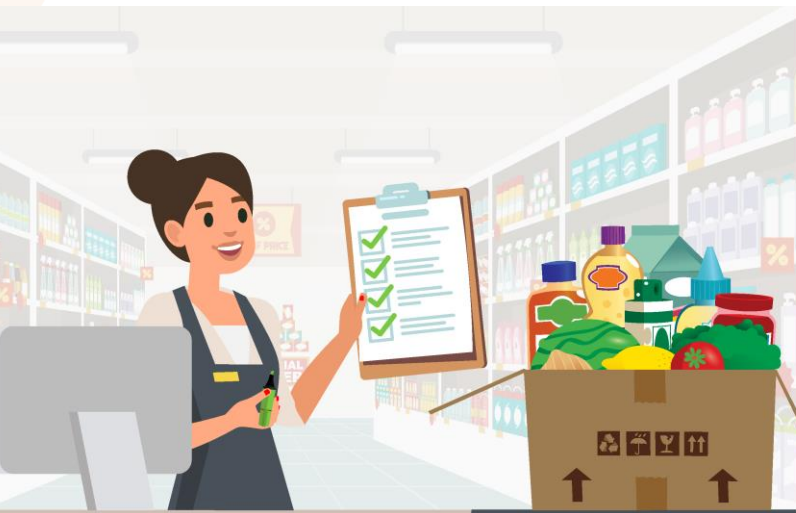
Stage	Hazard identification B=biological C=chemical P=physical A=allergen				Description of the hazard	PRPs to control the hazards at each stage (in addition to PRPs 1, 2, 3, 9 & 1, which apply to all stages)
	B	C	P	A		
<b>Stages common to all 4 target establishments (distribution centre, supermarket, restaurant and food donation)</b>						
Receiving	Y	Y	Y	Y	Failure to ensure the microbiological quality of incoming raw materials	10, 11, 14
					Presence of chemical / physical hazards or allergens in incoming raw materials	6, 10
					Incomplete shelf-life data	14

- This necessitated the development of **4 new PRPs** including; 'shelf-life control', 'handling returned foods', 'evaluation for food donation and allocation of remaining shelf-life' and 'freezing food intended for donation'
- FBO should inform consumers of the increased risks associated with the consumption of **high risk foods**, such as semi-cooked or raw meat products (PRP 13), with a clear understanding that this activity does not pass responsibility for food safety to the customer but always remains with the FBO



- Individual establishments need to carefully identify the specific stages/activities used in their establishment and **tailor the FSMS** to control all the hazards that may occur at each stage.
- Competent authorities should **monitor** the implementation of the 'simplified' FSMS and provide feedback to the EC on how this approach may work in practice.

# Communication activities



## FOOD DONATIONS

**NEW!**

A SIMPLE SYSTEM TO HELP SUPERMARKETS DONATE FOOD SAFELY AND CUT WASTE

**SAFE & EASY**

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## FOOD DONATIONS

**NEW!**

A SIMPLE SYSTEM TO HELP BAKERIES DONATE FOOD SAFELY AND CUT WASTE

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## FOOD DONATIONS

**NEW!**

A SIMPLE SYSTEM TO HELP RESTAURANTS DONATE FOOD SAFELY AND CUT WASTE

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- **BIOHAZ Panel** : Ana Allende, Avelino Alvarez-Ordóñez, Declan Bolton, Sara Bover-Cid, Marianne Chemaly, Robert Davies, Lieve Herman, Friederike Hilbert, Kostas Koutsoumanis, Roland Lindqvist, Maarten Nauta, Luisa Peixe, Mirko Rossi, Giuseppe Ru, Marion Simmons, Panagiotis Skandamis, Elisabetta Suffredini
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