



# REPORT

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## Food processing for good nutrition

5-6 DECEMBER 2019 / VILNIUS, LITHUANIA



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# Introduction

The skill-sharing session “Food processing for good nutrition” was organized by the European Food Banks Federation in collaboration with Maisto bankas on 5-6 December 2019 in Vilnius. During these two days, 14 Food Bank representatives from 7 European countries shared best practices and experiences about developing new and innovative models to process food.



**This skill-sharing session was the occasion to take stock of the situation in the different countries and exchange experiences about activities of processing food (fruit, vegetables, meat, fish, etc.) in order to extend the shelf life of food and preserve the nutritional value.**



This two-day skill-sharing session was therefore an opportunity to think about future set of actions to be implemented in the following months and years as regards food processing for good nutrition.

In this document you will find a summary of the information and best practices shared during the skill-sharing session.

# Skill-sharing session Summary / 5th December

**Location:** Maisto bankas, Vytenio g. 54, Vilnius 03202 / Lithuania

The skill-sharing session was organized in collaboration with Maisto bankas and it took place at the warehouse in order to combine theory with a on-site visit to the premises of the Food Bank, including their functional facility to process food.

## Introduction / Food processing: why?

After a general introduction to FEBA activity and impacts, the skill-sharing session started with the findings of a study published in August 2018<sup>\*</sup>:



**More than 50 million tonnes of fresh fruit and vegetables are wasted every year.**

This is the equivalent of more than one-third of EU production. In relation to food donation, produce is mainly recovered from the following sources: markets and wholesalers, market withdrawals (Reg. (EU) No 1308/2013, Art. 34), specific occasions (such as the Russian embargo), and the distribution sector.



**As regards FEBA network, in 2018 European Food Banks recovered and redistributed 51,000 tons of fruit and vegetables.**



**Angela Frigo, Secretary General, FEBA**

Some countries are already implementing food processing with different approaches:

- Transforming fruit into juices;
- Dehydrating fruit;
- Transforming vegetables into soups.

This is a field with a lot of potential, not only as regards fruit and vegetables but also fish, meat, and bakery products, because it could extend the shelf life of food and therefore increase the quantities of recovered and redistributed food. At the same time, many elements have to be taken into account, such as the professionalization of the process, the compliance with legislation (especially as regards hygiene and food safety), the capital and operational costs and the needs of charities and final beneficiaries.

This skill-sharing session was the occasion to open the debate on this topic and exchange views and best practices for future developments.

<sup>\*</sup> Porter, Reay, Bomberg, Higgins, "Avoidable food losses and associated production-phase greenhouse gas emissions arising from application of cosmetic standards to fresh fruit and vegetables in Europe and the UK", Journal of Cleaner Production, 2018



## Sharing experience / Case study from countries

### Banco Alimentare / Italy

Food Banks are engaged in preventing food waste and providing food aid to people in need. The daily mission consists in the recovery of surplus food from every stage of the agri-food supply chain and the redistribution to charitable structures that assist the most deprived.

Domenico underlined how surplus food in the agri-food supply chain is mainly made up of perishable food, therefore it is important to extend the shelf life of products such as fruit and vegetables, fresh meat and fish, bread, cooked food and dairy products.

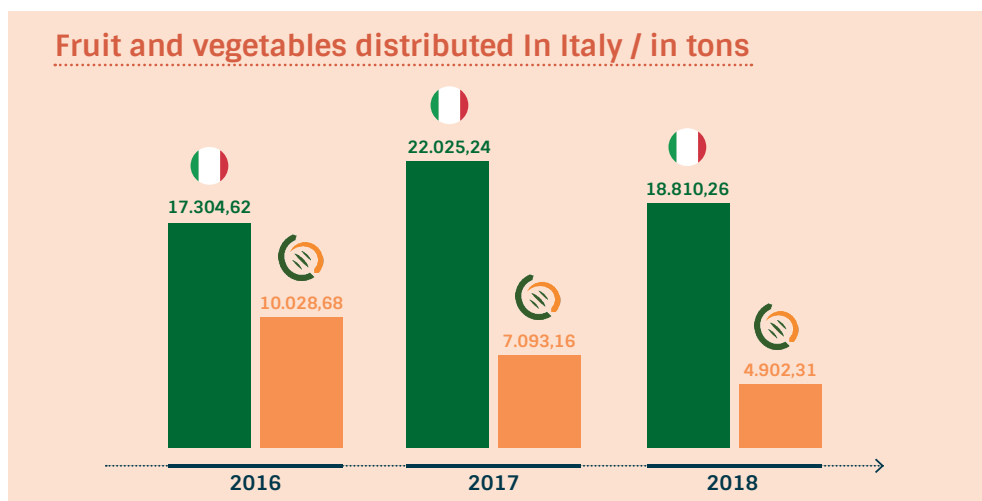
The Italian Food Banks network redistributes quite a significant amount of fruit and vegetables across the country, therefore the presentation firstly focused on the processing of nectarines.



**Domenico Messina, Director Banco Alimentare Sicilia, Fondazione Banco Alimentare Onlus**



As regards nectarines, the amount recovered and redistributed in the period 2016-2018 has not been very high if compared to the large quantities of available surplus in the summer. By processing nectarines, it could be possible



to prepare canned fruit or fruit in syrup, jam or light jam, ready-to-eat fruit or fruit juice.

An important focus should be put on the nutritional value of the processed food. The main differences in macronutrients can be seen in the content of carbohydrates, particularly sugars, and in the content of water.

In fact, the protein and fat content of the fresh product is naturally lower and even in processed products there are no considerable differences, only small reductions are observable as a result of the technological process of transformation. In this food there is always a prevalence of carbohydrates as the main source of energy while antioxidants and vitamins are the component most modified and degraded by the processes, particularly thermal processes.

Moreover, in order to assess the nutritional content of the various fruit-based processed products, it is necessary to evaluate the weight of the portions for consumption and therefore



the actual consumption of the various products. In conclusion, the transformation of nectarines do not sharply lower the nutritional value of the products, but rather preserve the nutrients while extending the shelf life.

#### Needs:

- Processed food for the redistribution after the summer period
- Finding a product that does not require to comply with the cold chain
- Finding a product that does not require energy expenditure for conservation, easy to store and redistribute
- Finding a product which is possible to consume in a simple way
- Finding a product with a nutritional value as similar as possible to the fresh product



As second topic the presentation focused on confiscated fish.

#### Reasons:

- Licence
- Over quota
- Traceability
- No auctions

#### Problems for the recovery of confiscated fish:

- Logistics
- Expertise
- Food safety
- Seasonality
- Cold chain

Fish is important because it is rich from a nutritional point of view, especially as regards proteins and Omega 3.

#### Needs:

- Processed fish in small portions because it could be more manageable for families
- Cheap or costless processed products
- Safe products
- Easy to store products
- Longer shelf life than fresh fish
- Does not require to comply with the cold chain

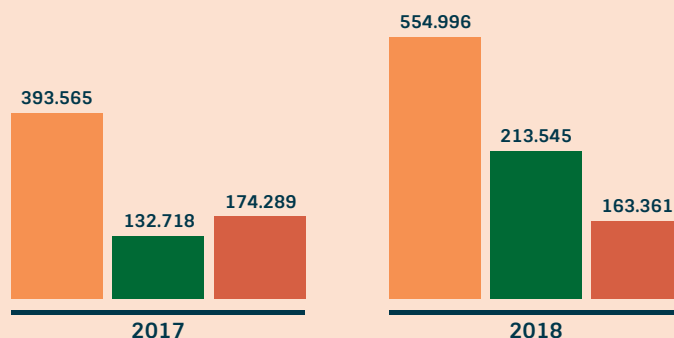


Source: Guardia Costiera

Finally, the presentation focused on bread. The processing of bread is still at the beginning: the main issues about the transformation of bread are about the need for charities to increase the amount of this product, the nutritional value of bread, and find a way to storage and redistribute this product during the week.

#### Bread recovered by Banco Alimentare / in kg

■ Fresh bread   
 ■ Dry bread and similars   
 ■ Bakery products





## Sharing experience / Case study from countries

### FoodCloud / Ireland

Karen started explaining that in FoodCloud they have set ambitious targets to grow the volume of surplus food redistributed in Ireland.

It is important to work together to:

- Identify and access surplus food
- Find logistics solutions to redistribute surplus food effectively
- Enable businesses to redistribute surplus and support communities across Ireland
- Inform food business and encourage them to see surplus food as a part of their process rather than thinking of it at the waste stages of production. This will allow more food to be rescued.

These achievements could help FoodCloud's charity partners.



**Karen Capcarrere, Food Safety Officer, FoodCloud**



**25,000 tons**

of food surplus available in Ireland

**+65% food surplus**

In the Irish food industry occurs in the supply chain



**COPE Galway work with a number of vulnerable groups within the local community. The food we receive from FoodCloud benefits our Homeless services and Day centres in reducing costs of food provisions, supporting individuals and families most at risk of food poverty. We really appreciate it.**

**Geraldine Ryan, Cope Galway**

## FoodCloud Production Kitchen

### → Future objectives



- Reduce food waste by giving surplus food a third life
- Provide a solution for very short dated food that arrives to the hub
- Support local charities with practical food products that they can use in their service (new product offering)
- Demonstrate ongoing innovation to support & secure future funding
- Enhance the volunteer experience
- Education and Food Prep Demos
- Social Benefits and vocational training

### → Planning considerations



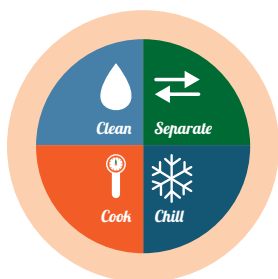
- Design & Planning
- Feasibility Study
- Extraction
- Waste
- Power/water
- Flooring
- Walls
- Building Experts
- Number of meals produced each day
- Number of events per year

### → Ongoing considerations



- Staff Costs
- Water & Waste
- Maintenance & Repairs
- Equipment
- Food
- Packaging
- Transport
- Insurance
- Food Safety
- Electricity & Gas
- Cleaning Products
- Marketing & Communications

## → Food Safety considerations



- Because FoodCloud will produce food for charities who are not considered the end user of the product then all necessary food safety legislation applies (including Reg No 853/2004, section 1.3 approval from the Department of Agriculture).
- This raises the food safety requirements significantly for food production kitchens and will increase the barriers to this project.
- Because FoodCloud will use food of animal origin, they will have to carry out some micro testing on the products, testing on the pH and water activity periodically and environmental testing to show that the environment remains safe for the production of food.
- Shelf life on food products will be the day of production plus two days so the feasibility study includes a cost benefit analysis and FoodCloud will push for the approval to freeze what they produce (so far the food safety authority is not keen on freezing).
- Concern has been raised on the use of volunteers in the kitchen and how to plan providing food safety training for them.
- FoodCloud do not want to compete with charity partners so the target market will be residential homes where they would cook for themselves so the portions will be for 15-20 people and not individual.

## → Possible barriers



- Food Safety Approval
- Packaging Costs
- Overall cost
- Training (Volunteers)
- Competing with charity partners
- Disruption to the existing warehouse operations

## → Possible solutions



- Look for corporate sponsorship for equipment, packaging etc.
- Introduce an excellent induction for volunteers
- Key person to run the kitchen
- Support from the Food Safety Authority

## Food processing in action / Tour in Maisto bankas warehouse & kitchen



During the morning participants had the possibility to have a guided tour in the warehouse of Maisto bankas. Moreover, there was the opportunity to see volunteers 'in action' to select and store the surplus food that just arrived from retailers.

Modestas from Maisto bankas explained to participants the organization of the warehouse and the daily activity, which is as efficient as possible.

After the visit to the warehouse, Asta showed participants the kitchen where every day a chef, with the support of some volunteers, cooks new recipes with fresh surplus food. They usually prepare canned food easy to redistribute to charities and people in need, with an extended shelf life.



## Getting involved / Challenges and opportunities for food processing

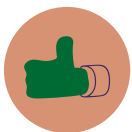
After the two presentations and the tour in the warehouse and kitchen, participants started to underline the most important challenges and opportunities for Food Banks regarding the processing of food.

### Challenges



- **National legislation (traceability)**
- **Liabilities**
- **Find skilled volunteers and train volunteers**
- **Diversity of charities - diversity of needs**
- **Assessing the needs of charities/people in need**
- **Find a flexible and innovative chef**
- **Ingredients (cultural/religious needs)**
- **Competition with food donors**

### Opportunities



- **Better understand our mission: food processing for food donation or fundraising?**
- **Increase food rescue**
- **Improve nutritional balance**
- **Partnering with corporates (volunteers and funding)**
- **Good story to tell**
- **More volunteers**
- **Meeting the needs of charities/people in need**
- **Visibility of Food Bank**
- **Additional funding**
- **Setting a social dimension of Food Banks operations**
- **Food Banks can have sufficient and diversified quantities of food to be processed**

## Insights from Academia / Understanding the importance of food processing

Simone Colombo from Politecnico di Milano and Laura Piazza from Università degli Studi di Milano made a presentation in order to deepen the knowledge on risk engineering and food products processing to give a more complete overview to Food Bankers on the topic.

Laura Piazza started explaining the importance of the food value chain with a specific focus on food processing.

There are some side effects associated to the choice of processing food such as the physical, microbial and chemical spoilage. In fact, a focus should be put on food safety.

In general, the shelf life of a product is the amount of time corresponding, under certain defined circumstances (packaging, transportation, storage conditions), to a tolerable decrease in the products' quality. It is the time between manufacture and possible latest consumption, wherein the characteristics of a food product are considered to remain acceptable with following dimensions and aspects. Considering the possibility to process food, quality must remain acceptable with a moderate nutritional value and therefore precise and knowledge-based considerations should be carried out. Simone Colombo helped participants to understand better the risk management aspects of starting to process food



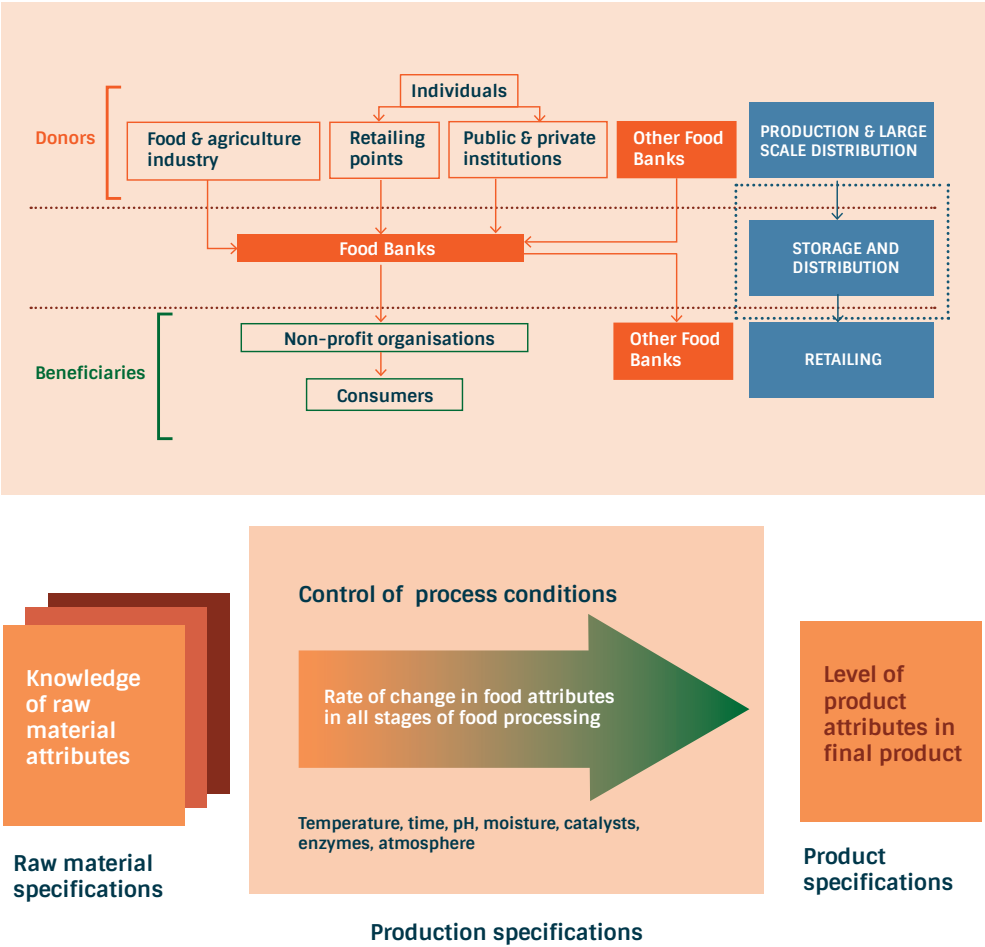
**Simone Colombo, Professor,  
Politecnico di Milano**

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**Laura Piazza, Professor,  
Università degli Studi di Milano**

.....



for a Food Bank. He underlined the importance of experts' intervention in order to evaluate such a decision looking at the ongoing costs consideration, the planning considerations and the possible barriers but at the same time solutions and opportunities together with food safety considerations.

the two professors listed the information (e.g. food, workforce, day-to-day activity) that is necessary to assess the potential of food processing and then make a reasoned decision.

In order to better understand the different realities of Food Banks and start a mutual exchange of knowledge,



## *Visit to the city centre and dinner*

Despite the cold Lithuanian weather, participants enjoyed a guided tour in the city centre of Vilnius where they had the chance to getting to know the local history and the culture. The guided tour ended with a traditional dinner together.



# Skill-sharing session Summary / 6th December

**Location:** Maisto bankas, Vytenio g. 54, Vilnius 03202 / Lithuania

## Getting involved / Plan for an action & sharing a plan

On the second day, participants were split into two groups and the aim was to work on the topics emerged the first day. In order to start developing and structure the processing of food, it is necessary to understand some important issues and planning considerations.



Focusing on the topics emerged the day before, the two groups had the possibility to highlight the challenges, the opportunities and the current situation in the different Food Banks. The most important topics were: the volume of food that Food Banks is currently processed, with or without seasonality pics, and the plant-related queries. In order to better establish future set of actions it should be fundamental to understand the availability or not of centralised place for food collection, refrigeration capabilities, etc. Last but not least, workforce-related queries in relation to the variability of users' voluntary workforce, operators to rely on and their level of specialisation.

The two groups came up with interesting results allowing the professors to have a better idea of the framework. Excellent team works and a mix of experiences from all over Europe enriched the plan for an action to start developing projects for the processing of food, being aware that when there is a risk there is always a big opportunity behind.




# Programme

## December 5th

9h00 - 9h30	<b>Welcome</b> / Agenda and expectations of participants	Plenary Session
9h30 - 9h45	<b>Introduction</b> / Food Processing: why?	Angela Frigo, Secretary General, FEBA
9h45 - 11h00	<b>Sharing experience</b> / Case study from <ul style="list-style-type: none"> <li><b>Italy</b> / Domenico Messina, Banco Alimentare</li> <li><b>Ireland</b> / Karen Capcarrere, FoodCloud</li> </ul>	Plenary Session
11h00 - 11h30	<b>Coffee Break</b>	
11h30 - 12h30	<b>Food Processing in action</b> / Tour in Maisto bankas warehouse & kitchen	Guided tour
12h30 - 13h00	<b>Getting Involved</b> / Challenges & opportunities for Food Banks	Plenary Session
13h00 - 14h30	<b>Lunch</b>	
14h30 - 15h30	<b>Insights from Academia</b> / Understanding the importance of Food Processing <ul style="list-style-type: none"> <li>Simone Colombo, Politecnico di Milano</li> <li>Laura Piazza, Università degli Studi di Milano</li> </ul>	Plenary session
15h30 - 16h00	<b>Coffee Break</b>	
16h00 - 17h00	<b>Wrap-up</b> / Urgent questions and solid answers	Plenary Session
18h00 - 19h30	Guided tour in Vilnius city centre	
19h30	Dinner in the city centre	

## December 6th

9h00 - 11h00	<b>Getting involved</b> / Plan for action	Working in groups
11h00 - 11h30	<b>Coffee Break</b>	
11h30 - 12h45	<b>Preparing a pitch</b> / Sharing a plan	Plenary Session
12h45 - 13h00	<b>Closing remarks</b>	Angela Frigo, Secretary General, FEBA
13h00 - 14h30	<b>Lunch</b>	

# Acknowledgement

European Food Banks Federation takes this opportunity to gratefully acknowledge DG Employment, Social Affairs & Inclusion, European Commission for concretely supporting the capacity building of FEBA and its membership.

Thank you to Maisto bankas for co-organizing the skill-sharing session. Especially to Simonas, Modestas, Asta and the entire Maisto bankas' team for the precious support before and during the skill-sharing session and above all a huge thank you to the chefs for the delicious lunches prepared with surplus food! *Ačiū!*

A deep appreciation to Simone Colombo from Politecnico di Milano and Laura Piazza and Francesca Girotto from Università degli Studi di Milano for their interesting presentations which gave a valuable contribution to the skill-sharing session. Moreover, a huge thank you to Domenico Messina from Banco Alimentare della Sicilia and Karen Capcarrere from FoodCloud for their case studies' presentations and valuable contribution during the session. All the speakers and experts of the two days testified that a real and constructive collaboration between food bankers and the academic world in Europe is possible!

Last but not least, many thanks to all the participants who actively contributed to the success of the skill-sharing session!



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