

# FRUIT AND VEGETABLE JUICE PRODUCTION

**WBF**

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<b>PU</b>	<b>Public</b>	
<b>PP</b>	<b>Restricted to other programme participants</b>	
<b>RE</b>	<b>Restricted to a group specified by the consortium</b>	
<b>CO</b>	<b>Confidential, only for members of the consortium</b>	

**1. Title of the case description**

FRUIT AND VEGETABLE JUICE PRODUCTION- Biofruits

**2. Indicate your role in the Smart Food Supply Chain:**

- individual member of the chain:
- chain operator:
- network operator:
- association:
- technical, scientific, or management expert:
- advisor:
- policy maker:
- other: .....

**3. Indicate the region (if applicable):** Valais, Switzerland

#### 4. WP2 Cross-reference table

Please indicate with an X in the relevant box of the matrix for which needs and the steps / functions of the supply chain the described innovative solution is applicable

		Individual steps of the SFSC							Short food supply chain as whole						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Needs of the consumers (citizens)	food safety	X	X		X	X			X	X					
	food quality	X	X		X	X			X	X					
	trust														
	ethical aspects														
	accessibility														
Needs of the chain actors	fair price														
	increased negotiating power														
	shared use of available resources				X										
	product development support														
	access to markets and consumers									X					
	access to infrastructure										X				

**1: Farming**

**2: Primary production**

**3: Transport**

**4: Processing and packaging**

**5: Storage**

**6: Logistics**

**7: Sale**

**8: Product integrity, authenticity, transparency**

**9: Marketing concepts**

**10: Food chain management and networking for enhancing cooperation among chain actors**

**11: Business modelling**

**12: Policy environment**

**13: Legal requirements**

**14: Labelling**

## 5. Short description of the innovative solution

- **Describe the specific need or problem being addressed by the case and please explain what is the novelty of this innovative solution**

The valorization of fruits and vegetables is a strategy for small firms and producers in order to diversify their products and differentiate from the competitors. Using the second-class products which are not marketable as fresh product is the objective of the innovation.

- **Describe the enabling function(s) and the practical benefit(s)-(e.g. for which types of problems and opportunities is used and can it be used, and how)**

The fruit juice production was made from fruits with bad external quality (shape or color non-compliant with the standards) for external producers. These producers could economically valorize their entire or the main part of the production. Furthermore, the waste could also be reduced thanks to this innovation.

Nowadays, the fruit juice production is used by more stakeholders, even competitors. To sum up, the service has been offered by Biofruits and is used by competitors

- **Describe the method/procedure/technology/solution implemented. (Please explain, whether the innovative method is a product / service / process / marketing or organisational / management innovation) After completing the description, please indicate, whether this innovation is a technological or non-technological one.**

The purpose of the innovation is to value second-class products that are not sold fresh.

technological

non-technological

- **Describe the business, which implemented the innovated solution (size, country, region, location, type of food)**

The innovation was implemented in Biofruits firms for local producers, in Valais, Switzerland. Producer of all around Valais can come with their fruits and their juice as well as firms that want to create beverages with fruits, infusion or sparkling.

- **Describe the distribution channels of the product(s)**

This innovation can be used for all sized business. The technology can process for example 1 kg of fruits to produce 7 deciliters of juices. Then it depends of the fruits, if it's juices or nectar, or if it's another beverage.

The innovation proposed requires electricity, water, gaz to warm water. So the country, region or location is not a limiting factor to be incorporated in the company that would need it.

- More or less, all fruits and vegetables can be processed through this technological innovation.
  
- **Describe what makes the innovation work.**
  - The technology preserves the nutrients and content of the fruits and vegetables in order to keep all the healthy and good components
  - The taste is also representative of the product (preservation of the aromas)
  - The shelf life is about 24 months.
  - Know-how

- **Describe the specific prerequisites for the business related to the implementation of the method and/or related to the location, method, procedure, solution**
- a: List the relevant necessary resources (including the estimated cost) for the specific innovation.  
Please list the relevant ones only (list is annexed)**

**MATERIALS:**

- fresh vegetable and fruits of a “second quality”
- local perishable

**HUMAN:**

- human resource for operation (8 persons). The staff has to be trained to use the technology.

**TECHNOLOGY:**

- Capacity required, because the capacity is related with the size of the machine
- Packaging required is essentially different size bottle, bag-in-box

**FINANCIAL**

- estimated cost: depends on the volume of the production

- b: List the relevant necessary capabilities for the specific innovation.  
Please list the relevant ones only (list is annexed)**

**FOOD SAFETY:**

- basic skills to comply with the Swiss food safety regulations
- ability to understand what makes the product safe (the key controls, which ensure the safety of the product – biological, chemical and physical hazards, providing the safety shelf life of perishable products)
- ISO 22000

**FOOD QUALITY:**

- ability to define the target segments of consumers for SFSCs
- ability to define which product attributes/levels and augmented services represent an added value for the target segments of consumers;

- production experiences which help to provide the expected quality reliably, uniformly;
- ability to provide distinguishable quality which meets the needs of the targeted consumer segment;
- meeting (local) legal requirements, application of the labelling rules;
- ability to access the consumer willingness to pay for specific products of SFSCs.

#### SHARED USE OF AVAILABLE RESOURCES:

- ability to enhance and maintain cooperation among chain actors including the shared and combined use of available complementary resources, capabilities, competences of SFSCs actors, networking, understanding the principles of food value chain management, cooperation culture;
- ability to access the consumer willingness to pay for food with reduced environmental impacts

#### ACCESS TO MARKETS: AND MARKET SUCCESS:

- effective promotion, customer service, efficient and innovative sales methods;
- ability to understand consumer's needs;
- ability to organise logistics efficiently and to exploit innovative solutions and distribution channels,
- ability to develop and implement new business models for ensuring access of consumers to products and augmented services, develop the market accessibility for the suppliers.

#### ACCESS TO INFRASTRUCTURE:

- ability to use existing own infrastructure in a focused way to serve consumer needs or to combine it with complementary infrastructures of other SFSC actors, cooperation culture;

#### **6. Describe the results, achievements and typical failures**

- .. Access to new markets (processed fruits and vegetables)
- .. Reducing waste by valorizing the damaged products

#### **7. Summarize what makes the case to a good practice for the members of the SFSCs (e.g. lessons learned)**

The innovation proposed make possible to diversify the products of the firms, to reduce the waste of the firm and to access different markets and/or consumers. The technology offers a high-quality final products.



## **8. Aspects, methods for transfer of methods for other SFSC members**

This technology is aiming external producers and individuals (?) to process their own production of raw fruits and vegetables. Therefore, the technology is already shared among different actors (i.e. Biofruits, which is the owner, and producers which are the customers).

## **9. Recommendations for members of other SFSCs for further applications**

The fruit juice production is applicable by small businesses where it is necessary to reduce the waste and add value to the production. It is also an interesting technological innovation for difficult periods where the production can be hardly damaged (e.g. meteorological disasters like hail).

Collective financing, scheduled operation can be effective for the small businesses. Small and high capacity equipment are available.

## **10. More information is available at (web), if it is relevant**

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<https://www.biofruits.ch/fr/accueil/>

## **Annex**

### **1. Checklist for necessary resources (tangible and non-tangible):**

- materials (access to: raw materials/ ingredients - including volume, land – including size, packaging materials)
- human: labour force: size, knowledge & skills (production, technical, marketing, managerial, ICT, financial, etc.)
- technology: patents, know-how, trademarks, copyrights, trade secrets
- infrastructure, equipment, facilities, - size, minimum volume of production/sales, IT infrastructure
- information, reputation, brand, trust
- financial\*

\*: estimated cost:

0 - 10 000 Eur  
10 001 - 50 000 Eur  
50 001 - 100 000 Eur  
100 001 - 300 000 Eur  
300 001 – 1 000 000 Eur  
1 000 000 Eur above –

- other specific necessary resources for the application of the specific innovation

## 2. Checklist for the necessary capabilities

- **food safety:**
  - basic skills to comply with the EU food safety regulations
  - ability to understand what makes the product safe (the key controls, which ensure the safety of the product – biological, chemical and physical hazards, providing the safety shelf life of perishable products)
  - food safety culture (motivation, responsibility for food safety) and basic skills for the implementation of HACCP
  
- **food quality:**
  - ability to define the target segments of consumers for SFSCs
  - ability to define the product characteristics which are (tacit) basic requirements for the target segment(s) of consumers;
  - ability to define which product attributes/levels and augmented services represent an added value for the target segments of consumers;
  - food quality culture (motivation, responsibility for food quality);
  - production experiences which help to provide the expected quality reliably, uniformly;
  - ability to provide distinguishable quality which meets the needs of the targeted consumer segment;
  - meeting (local) legal requirements, application of the labelling rules;
  - ability to access the consumer willingness to pay for specific products of SFSCs.
  
- **trust:**
  - ability to ensure product integrity, authenticity and transparent information for the consumers (including systems, tools);
  - ability to access external trust enhancers (third party certification, internal certification system, participatory guarantee systems);
  - application of the labelling rules and branding (mandatory and voluntary);
  - ability to meet third party certification requirements
  
- **ethical aspects**
  - ability to understand consumer needs for ethical behaviour related to the specific product(s) of the SFSCs;
  - culture for ethical food production and supply;
  - ability to implement necessary measures to ensure ethical food production and supply;
  - ability to access the consumer willingness to pay for products meeting ethical aspects
  
- **accessibility to consumers:**
  - ability to organize logistics efficiently and to exploit innovative solutions and distribution channels;
  - efficient, innovative sales methods;

- ability to develop and implement new business models for ensuring access of consumers to products and augmented services;
- **fair price:**
  - collecting marketing information;
  - ability to enhance and maintain cooperation among chain actors including the combined use of available complementary resources, capabilities, competences of SFSCs actors, networking, understanding the principles of food value chain management;
  - ability to define, develop or maintain unique quality of products and augmented services;
  - ability to develop and implement new business models;
  - ability to access the consumer willingness to pay for fair price
- **increased negotiation power:**
  - collecting marketing information;
  - ability to enhance and maintain cooperation among chain actors including the combined use of available complementary resources, capabilities, competences of SFSCs actors, networking, understanding the principles of food value chain management, cooperation culture;
  - ability to define, develop or maintain unique quality of products and augmented services;
  - ability to develop and implement new business models;
- **shared use of available resources:**
  - ability to enhance and maintain cooperation among chain actors including the shared and combined use of available complementary resources, capabilities, competences of SFSCs actors, networking, understanding the principles of food value chain management, cooperation culture;
  - the level of value chain management culture;
  - ability to access the consumer willingness to pay for food with reduced environmental impacts

- **input for R+D:**
  - ability to monitor, research, evaluate, and understand the needs and wants of customers and consumers;
  - ability to develop new products, processes, packaging, preservation techniques, systems and access to new markets, including in other categories;
  - access to innovative technologies; distribution and marketing solutions and methods. management systems;
  - access to local input for R+D covered by other aspects
  
- **access to markets: and market success**
  - effective promotion, customer service, efficient and innovative sales methods;
  - ability to understand consumer's needs;
  - ability to organise logistics efficiently and to exploit innovative solutions and distribution channels,
  - unique value propositions;
  - ability to develop and implement new business models for ensuring access of consumers to products and augmented services, develop the market accessibility for the suppliers.
  - stock control;
  - ability to access to required raw materials within a restricted geographical area
  
- **access to infrastructure:**
  - ability to use existing own infrastructure in a focused way to serve consumer needs or to combine it with complementary infrastructures of other SFSC actors, cooperation culture;
  
- **management:**
  - to implement management systems for vision, planning, implementing), coordinating, controlling, monitoring, continuously;
  - improving; ability to motivate, authorize staff;
  
- **production, processing:**
  - management system, production experience, specific controlling, monitoring, continuously;
  - willingness to consider and ability to evaluate the adoption of TECI and NTI in the current production processes;
  - any additional specific resources necessary for the application of the specific innovation.