



# THE LIFE GOES ON IN A GLASS OF BEER

## Valorization of fruit supply chain and its integration with the craft brewing industry

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### Introduction

Fruit production faces the challenge of extending its production chain, giving value and purpose to its by-products. In this respect, the integration with other production chain proved vital. The research aims at exploring the full range of these opportunities focusing on a commodity that only recently has become a constituent part of the Italian foodscape: craft beer. Within the beer sector, in the past decades craft beer production has represented a vanguard in terms of exploring new forms of production, developing and integrating different plant and animal local supply chains, and exploring more sustainable production processes. Thus, the development and growth of this sector offer opportunities in order to reinforce the fruit production chains, to support the improvement of their sustainability and stimulate local economies with positive effects on local supply chains.

### The research framework

The proposed research activities contribute to achieving the objectives of the **Spoke 7 - Secondary Agroindustry of the ecosystem “NODES-Nord Ovest Digitale e Sostenibile”**, concerning the increase of the competitiveness of the local food system in terms of safety, quality and added value of food products, through digitalization, circularity, and sustainability of the supply chain. Within the overall objectives mentioned above, the research activities are involved in the following subtasks of the “SADAIFO-PLANT” Flagship Project of the Spoke 7, as shown into the Gantt diagram reported in Figure 1:

Subtask	Description	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
2.1.A1	Analysis of the needs of the sector's operators																	
2.1.A2	Analysis of consumers' needs and expectations																	
2.2.2	Development of innovative food processes and products																	

Figure 1. Gantt chart of the research activities referred to the main subtasks of the flagship project SADAIFO-PLANT of NODES Spoke 7.

### Aims

#### Understanding and supporting artisanship

The success of the integration between the fruit and the beer supply chain relies on the very same element that granted success to craft beer: **the brewers' artisanship**.

The process of creating new beers involves a creative entrepreneurial individual profile, with the creation of new recipes through the incorporation of new ingredients in the preparation. Innovation is also strongly linked to the production process and method: for example, the exploration of new ways of fermenting and flavoring beer (the addition of fruits, extracts, and different varieties of hops and yeast) continues to generate new flavors and types of craft beer. The implementation of these processes relies on tacit knowledge of flavors and aromas with technical knowledge. However, the overall level and depth of knowledge among brewers is not fathomed. Thus, a specific analysis of the cultural needs of the sector is needed to implement new processes and productions by making them the common knowledge of an industry. In this sense, it is necessary to **better understand the reality of current craftsmanship** to expand it.

#### Empowering consumers in face of the change

The consumer attitude towards unfamiliar foods influences the acceptance of the newly developed product. Therefore, appropriate marketing strategies are needed to encourage consumers to try new products made with unconventional and novel ingredients. One of the possible solutions is the exploitation of the linkage between the product and *terroir* by using local ingredients, thus creating a sense of distinctiveness and giving a **strong identity and authenticity to the craft beer**.

The brewers play an important role in the relationship between consumers and products, as they create legitimacy, authenticity, transparency, quality, and integrity of products.

Over the years, the efforts of producers are therefore also oriented to facilitate the link between consumers and products through the market discourse that strengthens the collective identity of brewing culture. Today this link, with a view to the ecological transition through the development of new products and processes, becomes an opportunity to actively involve consumers in the process, empowering them into actors in the process. For this, it is necessary to further **understand what the actual cultural needs of the consumers** are to fully embrace a new selection of products, productions, and landscapes.

#### Interjecting local fruit supply chains with craft beer production

The growth of craft breweries in recent years has been possible thanks to the change in consumption patterns, which have stimulated the desire for novelty, variety, and quality of beers, allowing craft breweries to fill product niches through a wide range of highly differentiated beers. Partial substitution of environmentally impacting ingredients, such as barley malt or hop, could help **reduce the environmental impact of the brewing process** as well as **reinforcing the fruit production supply chains**.

Barley malt is often replaced by different adjuncts. Among these, the use of fruits in the beer process is a brewing technique already used for the production of “fruit beers”. Nowadays craft breweries are also exploring and experimenting with a lot of different fruits to add new flavors and to characterize the taste of the product, developing a beverage with attractive unconventional characteristics. More interesting for craft breweries is the partial replacement of barley malt with by-products from local fruit supply chains, to attract consumers with an **innovative eco-friendly and local beer**.

Local fruit, as well as other bitter plants could be used as hop substitutes with the dual objective of providing bitterness and flavor (without adversely affecting the sensory quality of the final product) and promoting the consumption of local and more sustainable beer.

Further studies are needed to investigate, under technological, sensory and social perspective, **the potential application of local fruits and fruit by-products as raw materials in craft brewing process**. Findings from these activities could be a valuable tool for craft breweries for the **production of an eco-friendlier beer**.

### Bibliography

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