



**Eco-friendly
packaging
within the
farm to fork
strategy**

AUTHOR

Giulia Romagnoli

CURATOR

Alessandra Diori

THANKS TO

Alessia Sementilli

FEBRUARY 2021

INDEX

EXECUTIVE SUMMARY.....	2
INTRODUCTION	3
1. A EUROPEAN NEW ENTRY: THE F2F STRATEGY	4
1.2 What are the economic advantages?	4
2. IMPLEMENT F2F THROUGH SUSTAINABLE PACKAGING	6
3. WINE PAPER BOTTLES: A SUSTAINABLE PACKAGING	7
3.1 Wine in paper bottles: a valid alternative?	7
3.2 Wine in paper bottles: the challenges to face	7
4. CONCLUSIONS.....	9
REFERENCES	10

EXECUTIVE SUMMARY

The Farm to Fork strategy (from producer to consumer) is one of the pillars of the European Green Deal and aims to build eco-sustainable production and distribution processes in the agro-food sector. Alongside several proposals - such as those for reducing pesticides, agro-medicines and emissions - eco-friendly packaging is also included.

The aim of this analysis is to identify the main economic implications of this strategy for the agro-food sector and what is meant by eco-friendly packaging, with specific reference to European requirements. Finally, it is examined the new entry of the Italian wine sector, that is the paper wine bottle.

Conceived by the English company Frugalpac and created by Cantina Goccia, it is a sustainable alternative to the use of glass and plastic. It is a bottle made of 94% of paper and a plastic coating which reduces costs, waste, CO2 emissions and impacts on the environment, while maintaining the quality and freshness of wine and increasing the ease of production. However, this container has to face different challenges to succeed. As a matter of fact, even though it is present in minimal percentage, the plastic which covers the bottle should be separated from cardboard and this makes it difficult to recycle it; moreover, consumers do not prefer the consumption of wine in paper bottles both for an aesthetical factor and for the doubts they have about the quality of a luxury good which has to be consumed in a cardboard container. As a consequence, the question is whether this innovative idea will really be successful considering the easiness of recycling this bottle and consumers' preferences. Focusing on technological recycling methods that simplify the separation of paper from plastic is one of the solutions to this question, but only time will tell whether the launch of this bottle on the market will have the expected effects.

INTRODUCTION

The current scenario has created a greater awareness of issues related to sustainability and the need to build a greener world, especially with the COVID-19 pandemic.

In the first section the analysis presents a brief description of the Farm to Fork strategy, highlighting its value for the agri-food sector. Indeed, since it represents one of the main goals of the European Green Deal to be implemented by 2030, the strategy aims at the creation of eco-sustainable processes that follow the entire cycle of production and distribution of products in order to achieve an increasingly circular economy. Moreover, the study investigates the main economic effects that the implementation of F2F will have for both producers and consumers.

The second section of the analysis aims to understand more in detail what is meant by eco-sustainable packaging and how it is important in the context of the European Farm to Fork strategy. Indeed, one of the main and most problematic stages of the production chain in terms of EU agri-food sustainability is packaging. Waste from food packaging represents about 50% of the total. Consequently, creating containers that can be easily recycled, recovered, reused and that imply a lower use of materials such as plastic and glass, as well as non-renewable energies that have a negative impact on the environment, seems necessary for present and future generations.

Finally, the last section focuses on the case study of the paper wine bottle produced by Cantina Goccia, which entered the beverages market as a more ecological alternative compared to normal glass bottles. Through a description of its components and its benefits in terms of sustainability, but also of the issues related to consumer preferences and the feasibility of its recycling, the study aims at understanding whether or not it can be a long-term, valid and successful alternative for the agro-food sector both in Europe and globally.

The commitment to research for the creation of increasingly eco-sustainable agro-food packaging in line with European requirements has achieved great goals, such as the abovementioned case of the paper bottle. However, the challenges that these technological innovations have to face in order to be successful are still many and there are still several questions to which we are unable to give exhaustive and definitive answers.

1. A EUROPEAN NEW ENTRY: THE F2F STRATEGY

Adopted by the European Commission in May 2020, the Farm to Fork strategy - from producer to consumer – entered the European scenario as one of the pillars of the Green Deal 2030 and aims at building eco-sustainable production and distribution processes in the agro-food sector. The latter represents an extremely strategic area for the EU with around 294,000 companies - mostly SMEs - and almost 5 million employees.

In contrast to the sectoral strategies that were previously adopted by the EU, the F2F is considered as a comprehensive approach that focused not only on the food field but also the environment, the economy and society. Therefore, food becomes a common good that must be rewarded and followed in every stage of production and distribution thus increasingly becoming an eco-sustainable good.

The F2F aims at the establishment of European standards which represent guidelines for consumers and producers and which have multiple purposes: firstly, the implementation of sustainable food processes from production to consumption; secondly, the promotion of quality foodstuffs that are healthy, not subject to food fraud (counterfeiting, alteration, etc.) and respect the principles of the Mediterranean diet; finally, the strategy aims at reducing food waste and environmental impacts, such as water and air pollution.

The safeguard of the environment is not only a European goal but also an international objective. As a matter of fact, by promoting this strategy at Community level, the EU wants to achieve a global ecological transition through targeted interventions such as a significant reduction in the use of pesticides and the conversion of lands currently in non-organic agricultural production to organic production.

Due to the implementation of the Farm to Fork strategy, a more fair and direct relationship between the producer and the consumer will be established. Indeed, through sustainable labelling and packaging, the customer will be better informed about eco-friendly methods which are adopted during production processes and oriented towards a conscious style of healthy and genuine food.

1.2 What are the economic advantages?

Although few studies have been carried out on the effects that the F2F strategy will produce over time, it is possible to analyse some potential advantages that it can offer on an economic level for both producers and consumers.

On the one hand, small farmers who use sustainable strategies will be rewarded and valued more highly than large production chains. In addition, due to the many innovative methods aimed at reducing waste, reducing the use of agrochemicals and increasing the use of recyclable packaging, producers will gain greater profits, visibility and competitiveness.

Italy already ranks among the European countries receiving the largest funding from the European Fund for Regional Development (ERDF) of the agri-food sector and the protection of small and medium-sized enterprises. The Farm to Fork approach will strengthen this position in the long term.

On the other hand, consumers will be able to access higher quality local agri-food products at lower prices than those currently applied. Indeed, one of the reasons why these products are not favoured by individuals is precisely the price factor, which is too high to attract greater consumption.

The European Farm to Fork strategy will enable to recognize the commitment to environmental care inherent in sustainable production processes, by guaranteeing more accessible prices that will encourage consumers to prefer these products to others. The result will be a win-win strategy for both parties that will inevitably lead to economic growth at national and European level. In order to be successful, this project will require strong policy coordination between member states, but also greater collaboration at national level between authorities and producers. Finally, it will be extremely important to focus on innovative technological tools that can support the transition towards sustainability and ensure the success of the F2F without generating potential negative externalities including unproductivity or food dependence on non-European countries.

2. IMPLEMENT F2F THROUGH SUSTAINABLE PACKAGING

The effectiveness of the Farm to Fork strategy requires the implementation of several sustainable production and distribution methods, ranging from sourcing raw materials in a way that reduces environmental impacts and deforestation processes, to promoting healthy and wholesome food, to sustainable labelling and packaging.

Agro-food Packaging represents one of the main issues concerning sustainability. It has consequences not only related to its production, but also linked to other steps including transport and waste management.

First of all, the problem concerning the sustainable production of packaging focuses on the materials to be used. Since traditional packaging involves the use of raw materials that are non-renewable or that require several years to be reused, sustainable packaging aims precisely at finding alternatives that can be easily reused, disposed of or recovered and allow waste to be reduced.

Secondly, the transport of food containers involves a significant consumption of energy which impacts the environment. Finally, the problem of waste management makes it necessary to find innovative methods that allow greater reuse of materials. It is estimated that food packaging accounts for almost 50% of total waste and, if we consider disposable packaging for fresh and short-life products, only one out of five is recycled.

Recently, it has been seen how eco-friendly projects associated with packaging and its production process have been implemented. In particular, at the level of the European Union, specific standards have been defined to make the life cycle of packaging as eco-friendly as possible.

First and foremost, the focus has been on the replacement of materials to both facilitate waste management, reuse and reduce environmental footprint. Reducing plastic and glass consumption, increasingly using recycled plastic or creating reusable paper packaging have been just a few of the main issues that research is focusing on. However, considering these interventions as starting points is the first step to build a more sustainable and circular economy.

Another requirement to be met for sustainable packaging is to minimize the weight and size of packages, while ensuring acceptable and safe health standards for consumers. Finally, it is important to use non-harmful or hazardous substances in the production of packaging, but rather materials that are as natural as possible.

3. WINE PAPER BOTTLES: A SUSTAINABLE PACKAGING

According to the F2F strategy, some innovations which involve the abovementioned requirements have recently acquired even more relevance and visibility. Among these, it is interesting to mention the use of paper instead of glass which has brought about important changes in the packaging of the agri-food sector, especially beverages.

An evidence is the idea launched in the UK by Frugalpac and implemented for the first time in Italy by an Umbrian winery, the Cantina Goccia, where since July 2020 the production of a fully recyclable paper wine bottle has started. Nevertheless, the idea of the recyclable bottle is nothing new. Indeed, this one entered the market ten years ago thanks to the Californian wine company Truett Hurst. During this decade, the paper wine bottle did not succeed in Italy but, considering the increasing awareness and inclination towards more sustainable consumption models, it can be understood how the choice of the Umbrian winery can be effectively successful in today's market.

3.1 Wine in paper bottles: a valid alternative?

In order to understand whether the paper bottle of Cantina Goccia can be a valuable alternative to the common and stylish glass bottle, it is interesting to see in detail how it is made.

The production of this container - which can be directly produced by wineries - involves recyclable paper and plastic which maintain the quality and fragrance of wine. Paper represents 94% of the material used for the bottle, making it much lighter than the glass bottle. Paper, indeed, allows to obtain a wrapper of about 80 grams, whereas the glass one weighs between 300 and 900 grams.

The environmental impacts resulting from its production, including the CO₂ footprint and the water footprint, are reduced by about 84% compared to those of the normal glass bottle. Moreover, the peculiarity of being able to create this bottle directly in the wineries or where the wine is bottled allows a further reduction of transportation costs and of both environmental and economic impacts.

Currently, the wine in paper bottle produced by the Umbrian winery is available for Sangiovese, Merlot and Cabernet Sauvignon but only through e-commerce. Moving to the United Kingdom, the Scottish company Woodwinters Wines & Whiskies was the first to introduce the paper bottle of wine of Cantina Goccia in the retail market, arousing the interest of the networks of the Great Organized Distribution (GDO).

3.2 Wine in paper bottles: the challenges to face

The adoption of the paper bottle is not exempt from challenges.

First of all, according to the researcher and market analyst at Lux Research, Drishti Masand, one of the main issues is the difficulty in separating the materials the bottle is made of. As mentioned

above, the paper bottle needs a plastic coating in order to maintain the temperature and the quality of the wine, but this complicates the separation of the materials for recycling. Nowadays, recycling plastic coated paper by splitting its components is a problem that has not yet been properly addressed by companies and, for practical reasons, not even by consumers.

Secondly, the challenge of separating materials also arises for bottle caps, which are made of plastic or aluminium and, consequently, must undergo different recycling processes.

Finally, the preference for wine in glass bottles over paper bottles poses an additional obstacle. Despite it seems an irrelevant problem, the fact that consumers are sceptical about the consumption of an elegant and refined good such as wine in a mere paper bottle is not something to be underestimated. Only by observing the trend of the beverages market and the preference indexes of consumers it will be possible to understand whether this new type of sustainable packaging will really be successful.

4. CONCLUSIONS

Following the wake of COVID-19 pandemic, the challenges that are being faced on a global level have created a new and more conscious scenario with respect to the issue of sustainability and the circular economy. The implementation of the F2F strategy at European level is an evidence. Undoubtedly, the resulting effects will impact the environment and the lives of individuals whether they are producers or consumers.

Although it is not the only phase of the production process to be focused on, eco-sustainable packaging is needed in order to carry out a real change, especially in the agri-food sector.

The paper bottle represents a step forward for the benefits it can lead to in the field of agri-food sustainability, but its successful market entry is still a question mark. Reducing glass consumption through an eco-friendly packaging such as the paper bottle solves a problem in the short term but inevitably creates other issues in the long term, including the difficulty in recycling paper and plastic separately as well as the market trends.

European and global technological development should focus more on efficient and sustainable methods of splitting the materials used for packaging waste disposal. The fact that large companies such as Diageo, PepsiCo and Absolut as well as the aforementioned Frugalpac are focusing on the production of beverages in paper bottles will probably allow to improve such recycling and separation methods. The influence that these big brands can bring, along with awareness campaigns for a development increasingly oriented towards eco-sustainability, are having and will have important effects at Community and international level.

A common, concrete and conscious commitment to sustainability and the construction of increasingly fair relationships between consumers and producers, as well as between the latter and government authorities, are just the first steps along a long path which is not without difficulties but must inevitably be faced.

REFERENCES

- Arthur R., Packaging Innovation: Paper wine bottle cuts carbon footprint, beveragedaily.com, 08/07/2020.
- Direttiva (UE) 2018/852 del Parlamento europeo e del Consiglio, del 30 maggio 2018, che modifica la direttiva 94/62/CE sugli imballaggi e i rifiuti di imballaggio, Gazzetta ufficiale dell'Unione Europea, 14/6/2018.
- Eurocompany, Dal produttore al consumatore: strategia per un sistema alimentare equo, sano e rispettoso dell'ambiente, eurocompany.it, 20/07/2020.
- European Commission, EU Green Deal: benefits for farmers, ec.europa.eu, 05/2020.
- European Union, Farm to Fork Strategy, ec.europa.eu, 2020.
- FoodDrinkEurope, Preliminary Contribution to F2F Strategy on Sustainable Food, fooddrinkeurope.eu, Bruxelles, 03/2020.
- Funding Aid Strategies Investments, Farm to Fork: l'opinione di agricoltori e imprese, Leasenews.it, 17/10/2020.
- Jadeluca P., Il vino in bottiglia di carta, *La Repubblica*, 01/07/2020.
- Marsh K. e Bugusu, B., Food Packaging – Roles, Materials, and Environmental Issues, *Journal of food science*, 31/03/2007.
- Mileham A., The Drinks Business, 2020. Scottish Indie Becomes First Retailer in the World to List Paper Wine Bottle, thedrinkbusiness.com, 17/11/2020.
- Piovan D., Se l'Europa si trasforma in un giardino bello ma improduttivo, stradeonline.it, 02/12/2020.
- Siracusa, V. e Dalla Rosa, M., Sustainable Food Systems from Agriculture to Industry: sustainable packaging, 01/2018, DOI: 10.1016/B978-0-12-811935-8.00008-1.
- Wine News, 2020. Il vino in bottiglia di carta. L'idea dell'inglese Frugalpac, adottata dalla Umbra Cantina Goccia, winenews.it, 01/07/2020.
- Zordan A., From Farm to Fork: pros and cons of the new European farming strategy, *Gambero Rosso*, 05/06/2020.

AWARE

www.awarepec.com
awarepec@outlook.com

