

## ECO-FRIENDLY DRINKING STRAWS MADE FROM LEFTOVER WHEAT STALKS IN GREECE

Since 2019 the [Staramaki Social Cooperative Enterprise](#) based in Kilkis, in northern Greece, has been producing eco-friendly drinking straws from leftover wheat stalks, with the aim of replacing single use plastic straws. Staramaki is a unique straw made of wheat.

Created from natural wheat stems, the drinking straws are fully biodegradable and do not become soggy during use. The product is fully compatible with the European and National Legislation. It does not contain genetic modified substances and does not undergo any chemical procedure or contain any chemical additive. It does not contain gluten or any allergens.

The drinking straws are sold with ecological packaging that contains [different quantities and sizes](#) to adapt to the specific needs of customers. The cooperative has managed to sell the Staramaki straws in retail, wholesale markets and orders by large companies.

Adopting a circular economy approach, Staramaki's business model extracts value from wheat stalks, which are left over from local agricultural activities. In this way it helps to reduce the volume of agricultural waste and the costs related to its disposal, bringing significant benefits to farmers and to the environment.

The website presents in detail the [production process adopted](#), which includes the following stages.

- Harvest. The wheat stems are reaped mechanically after harvest and collected by hand in fields.
- Storage. Harvested stems are stored according to origin and date of harvest in designated racks that allow proper ventilation. The storage area is equipped with industrial dehydrators that control humidity levels.
- Preselection. Not all stems can become straws. Identifying which stem is suitable locating the nodes and cut to size is a process that currently is made manually.
- Trimming and re wash. Currently, stems are being cut by hand using specially shaped stainless-steel scissors. Trimmed stems are placed in pre-heated stainless steel soaking tanks, designed and developed specially for Staramaki.
- Boiling, Rising and Washing. Soaked stems are then placed inside the boiler tank. Water rinsing is used between each process step and at the end of the cycle. Industrial washing units fully automates the final washing process.
- Drying. Stems are then positioned inside the drying chamber where fans are used to circulate hot air around them.
- Quality control and Packaging. Each stem is individually inspected before final packaging. Stems are then packaged according to order.



Through this production process, which combines mechanized and manual components, the use of appropriate equipment to refine the product and using methods that do not require high energy consumption, Staramaki has managed to create and market a high-quality product.

In 2021, the production capacity is of 5,000 units per day and the cooperative aims to quadruple it in the coming months, with the creation of a semi-automated production line, which will enable the daily production of 20,000 units. Other relevant results are the 100,000 pieces ordered by a large company and other 4,000 straws for structures of the European Union.

Thanks to these results, Staramaki cooperative aims to expand the impact of its activities to bring more environmental, economic and social benefits at the same time:

- In a country that consumes 1 billion plastic straws every year, the natural and high-quality wheat stems Staramaki can represent an excellent alternative to replace single use plastic straws, helping to reduce the pollution they generate in the environment. The Staramaki straws also represent an alternative to other biodegradable products put on the market and created through heavy processing techniques or paper straws, relying on deforestation and significant amounts of energy.
- Based in a rural region in northern Greece where unemployment reaches 50% and characterized by strong depopulation processes, through the production of drinking straws utilizing the by-product of wheat cultivation Staramaki generates added value to agricultural activity, contributing to the income of a struggling local economy. The cooperative offers new labour opportunities, including vulnerable groups of people and refugees.

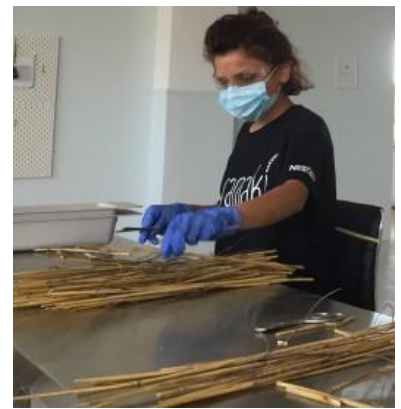
Taking into account these important potentials, Staramaki is planning to expand the impact of the activities building a cluster of social cooperatives. In particular, they plan to implement 8 production points in Greece, strategically located wherever wheat is cultivated, securing supply of raw material against extreme weather conditions, reducing transportation costs, empowering more rural regions.

In this perspective, the cooperative carries out numerous activities for the promotion of Staramaki drinking straws and for the search for funds that allow it to expand production. It has also established alliances with several [specialized research centers and universities](#) that collaborate to improve the ecological manufacturing activities. It has already managed to obtain grants and loans from various foundations. Global brands like L'Oreal have collaborated with Staramaki and Nestle has announced its interest to contribute further expanding Staramaki's plans. Staramaki was a winner of the Venture Impact Award (USA) designed to support Greece's brightest and most talented startups.

[The Switchers Platform](#), a community of inspiring green entrepreneurs and changemakers in the Mediterranean region, has included the Staramaki cooperative among its members, publishing a descriptive article presenting information of interest on their history, activities in progress and plans for the future.

Staramaki cooperative and the natural wheat straws are also presented in the [European Network for Rural development](#) website by the article [Circular model of wheat straws production](#).

The Staramaki practice, in fact, shows the great contribution that cooperatives and social businesses can make by creating innovative solutions based on the use of local resources, on the circular economy approach and ecological methods, to address the great global challenges for a new sustainability in development processes.



## To know more

[Staramaki website](#)

[Staramaki in Facebook](#)

[Staramaki production process](#)

[Article and video in European Network for Rural development website](#)

[Circular model of wheat straws production in Interreg Europe website](#)

[Article \*The Last Straw\* in UNFCCC website](#)

[Staramaki in The Switchers website](#)

[Staramaki in Venture Impact Award](#)

[Article in greekcitytimes.com](#)

[Article in enmillennialagora.com](#)

[Article in packaginginsights.com](#)

