

Economic diversification in cultivation of *Camellia sinensis*

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ABSTRACT

The International Camellia Garden of Excellence of Pazo Quinteiro da Cruz is the first *Camellia sinensis* tea plantation in Spain, in the northwest region of Galicia. A project that begins in 2008, with permaculture as the basis for project design has resulted in a very productive plantation with harvests from April to September. The objective is economic diversification in a change of concept of the exploitation of *Camellia sinensis* in order to promote the agri-food, tourism and industrial sector from the concept of sustainability and the circular economy, which boosts the revitalization of this rural zone.

Keywords: tea, permaculture, circular economy, sustainability, experience.

INTRODUCTION

All the details of life should be taken care of and celebrated to try to find beauty in everything and seek tranquility and harmony in life. This is the idea that prevails in the work of Lu Yu, the Chinese writer who wrote the first book on tea, around 760 A.D. Feeling the call of tea, traveling to areas where tea is grown and undertaking a research project through the wisdom of the farmers themselves made him write the Cha Jing or the tea classic, in which he considers that everything that surrounds tea is a part of the cosmic order, starting with the preparation and tasting of tea, becoming a symbol of harmony with the universe.

Lu Yu's book summarizes the tea culture up to the middle of the Tang dynasty. Full of mysteries and legends, the book's reading allows you to assimilate and understand the presence of tea and where its projection can go. It explains everything about the tea of the time: cultivation areas, types and characteristics of tea, harvest, elaboration process, how to drink it, tea culture ... A book that has made a dent in my life path and that has me driven to want to have my own tea plantation.

Growing up among the camellias of Pazo Quinteiro da Cruz has undoubtedly been the basis for developing different projects around the camellia and specifically this project around the cultivation of *Camellia sinensis*.

The theory and practice

Pazo Quinteiro da Cruz is a family property with a philosophy based on sustainability. Our parents projected all their work in the 20th Century with the intention of looking to the future, to be a reference worldwide for people from all over the world to come to visit, so we could keep the property when they were gone.

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Almost 50 years ago, our parents began the dual dream of planting of Albariño grape vines and developing the winemaking cellar, and of rehabilitating the garden, promoting the collection of about 20 kinds of camellias of the 19th Century into what nowadays numbers more than 2,000 varieties, of about 80 species. Wine and camellias are the fundamental pillars to develop Quinteiro da Cruz projects. Today we are part of the Rías Baixas wine route, the Camellia Route, and the route of the gardens of Galicia. We are attached to the Slow Food movement, to SIDTEC quality tourism, and accessible tourism.

The Pazo Quinteiro da Cruz is located in Ribadumia, in the Salnés Valley, an area of high botanical and ornamental value, with an important historical heritage of Galicia. We have an identity sign to enhance the values of nature to create wealth, using sustainability tools such as circular economy and ecological design, being respectful of the environment and betting on improving the quality of life of people, as well as improving biodiversity in both botanical and agri-food sectors.

In the camellias collection of Quinteiro da Cruz there were *Camellias sinensis* plants. But it was in 2008 when the tea plantation was established. We have based the design and location of the tea plantation on the principles of permaculture and the circular economy.

The 'PERMACULTURE' a word invented in the seventies by two Australians, David Holmgren and Bill Mollison, to describe the design system developed in response to the challenges that they, and many people around the world, see as serious threats to everyone's survival. Originally derived from the words "PERMANent and agriCULTURE", permaculture has gone beyond its roots in the development of sustainable methods for growing food, to become a worldwide movement that encompasses all aspects of how we as human beings can live in harmony with our planet Earth and its limited resources - a permanent culture.

Permaculture is: "BUILD A SUSTAINABLE HUMAN HABITAT, FOLLOWING THE PATTERNS OF NATURE", recognizing universal patterns and principles, and learning how to apply these "ecological truths" to our gardens and lives. We can identify the basic figures that occur in the natural world and learn to understand and use them in designed ecologies. Permaculture is a broad and holistic approach that has many applications in all aspects of life.

The Circular economy is a value-generating alternative that constitutes the antithesis of the linear production and consumption model. Conceptually, a "holistic", "restorative" and "regenerative" model that encourages products, components and materials to maintain their value and utility permanently throughout the entire production, use and consumption cycle. It generates indisputable environmental advantages, social benefits and added value for companies, aspects necessary to guarantee the sustainability of resources and ecological diversity in a globalized, complex, and often unpredictable planetary context given the climatic emergency situation. It is a model that takes into account economic, environmental, and social

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aspects, based on the principle of "closing the life cycle" of resources, products, services, waste and materials, enhancing the performance of value chains.

The special characteristics and complexity of the current economic scenario require optimizing the return on investments in media and resources of all kinds, and maximizing the life cycle of products. Resources, especially natural and of a limited nature, are increasingly expensive and scarce, which leads to the need to manage them rigorously, and to use them in a way that avoids waste throughout the entire productive cycle.

Results and Discussion

We have opted for a tea garden surrounded by fruit trees and camellias in the environment of a botanical garden -- the International Camellia Garden of Excellence of Pazo Quinteiro da Cruz. We began developing a small plantation of *Camellia sinensis* in 2008, with permaculture as the basis of the design, which translates into high productivity with crops from April to September. We opted for an organic crop; its collection and processing is completely handmade, following the traditional Chinese methodology. From the beginning we have been studying how the plantation was behaving year after year, the influence of the lunar phases especially around the time of pruning, which we do during the full moon, and in the collection we have also seen that this methodology influences the next harvest.

In 2013 we started to collect tea, making green tea, white tea and pruning (winter) tea, and year after year the crops have been increasing. We already have the Sanitary Registry for the production, elaboration, packaging and sale of our tea, the first tea from Galicia -- a complex procedure as our plantation the first to obtain the general sanitary registration for food processing in Spain.

In 2016 we have begun to collaborate with the University of Valencia, in the textile department, in two lines of research: organic dyeing and solar photoprotection, two characteristics of the tea bushes we currently can get for use in the industry. This experimental phase has already ended. Ten years later, In 2018, we have collected 20 crops, resulting 10 kilos of tea. Last year, in 2019, we have collected 12 kilos of tea.

Products made from *Camellia sinensis*:

- Tea: green tea, white tea, pruning, tea flowers, all sold under our brand of tea from the *Camellia sinensis* Botanical Garden of Pazo Quinteiro da Cruz.

Tasting notes: camellia flower, fig, almond, acerola cherry, and loquat. Thanks to the bees that pollinate the *Camellia sinensis*, our teas have fig aromas and aromas of other plants, since there is a fig tree, acerolas, apples, loquat, prunus, citrus and varied flowers.

The green tea has a soft touch at the beginning and astringency in the second water, a tea that transmits peace and tranquility

- Food: tea flower jam, tea cookies and tea bread
- Tea candles
- Tea perfume: "Universo" for sale with the Herbs & Symbols Brand
- Tea cosmetics: facial and body soap, lipstick, oil,

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Experiences:

- Tea tasting
- Tea ceremony
- Galician tea evenings
- Tea collection experience
- Tea making experience
- Wellness therapies

The work team of Pazo Quinteiro da Cruz is involved in our philosophy, and within Pazo Quinteiro da Cruz we have two companies that share the same business name. The main one is Bodega Pazo Quinteiro da Cruz S.L. a small family-run business that manages the Quinteiro de la Cruz Albariño wine, events, visits, property maintenance. The other is Tsubaki design SLU, which manages the production, elaboration and sale of tea, as well as the production of camellia oil, the elaboration of cosmetics and aromatherapy, tastings, tea evenings. Our tea evenings are similar to English afternoon tea but in the Galician experience, where we make jams of *camellia sinensis*, tea biscuits, tea bread that we use in the experiences that develop in the garden.

Conclusion

Although tea is the second most consumed beverage after water in the world, in Spain and in Galicia in particular, there is no tea culture. In this project we have chosen to transmit and create a culture of tea, and most of the people who visit us are surprised that all the tea in the world is from *Camellia sinensis*. It is important that they understand what the process is like and how to make and taste the tea.

Lack of time for tea plantations to be profitable only by making tea in Galicia. There are other options to improve this crop in our field, to dedicate it as a product for the industry for the UV protection factor for cosmetics or textiles and as an organic dye, or to generate experiences.

A project that strengthens the rural, agri-food, tourism and industrial sector from the concept of sustainability and the circular economy.

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Annex:



Quinteiro da Cruz
jardín botánico - colección de Camelias



Tea Plantation Botanical Garden Pazo Quinteiro of the Cross

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Tea Recolection



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tea buds



Green tea



Afternoon Tea in the garden



Products

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