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- **Prémios “Distinção CNOIV” 2024**

atribuídos nas áreas:

- **Enologia**
- **Viticultura**

- **Prémio “Inovação CNOIV” 2024**



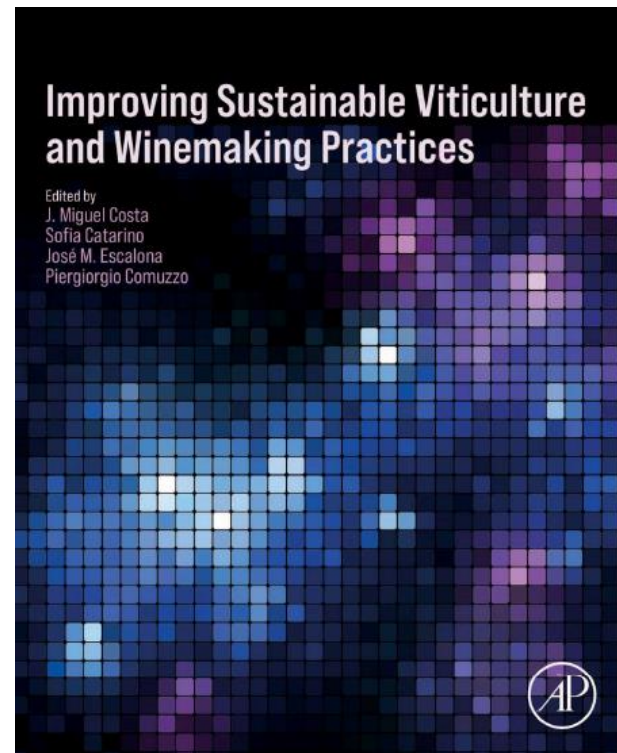
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Prémio “Distinção CNOIV”

Enologia

O livro **“Improving Sustainable Viticulture and Winemaking Practices”** foi publicado em 2022 pela *Elsevier/Academic Press*, de um coletivo de autores, representados pelos Professores e Investigadores do ISA e do LEAF, J. Miguel Costa (Viticultura) e Sofia Catarino (Enologia) e que vêm receber este prémio.





Prémios “Distinção CNOIV”

Viticultura

✓ O artigo científico “Douro wine-tourism engaging consumers in nature conservation stewardship: An immersive biodiversity experience”, foi publicado em 2023 no *BIO Web of Conferences - 43rd World Congress of Vine and Wine*, de um coletivo de autores, representado por **António Graça**.

✓ O artigo científico “Assessing the differences of two vineyards soils’ by NIR spectroscopy and chemometrics” foi publicado em 2023 no *Heliyon*, de um coletivo de autores, representado por **Ricardo Páscoa**.

Douro wine-tourism engaging consumers in nature conservation stewardship: An immersive biodiversity experience

António Graça¹, Isabel Moreira¹, Bárbara Silva¹, Carla Oliveira¹, José Manoel¹, Luís Moreira¹ and Cristina Gomes¹

ABSTRACT. Wine tourism is a growing revenue side-stream for wine businesses and regions. It complements wine with a variety of landscape, gastronomy, culture and history. Wine tourism generates an experience that transcends the standard tastes of wine. In 2023, the IVV will hold the COP11 of the Convention for Biological Diversity (CBD) aiming to revive nature and biodiversity, making the world nature-positive by 2050 and planning for full recovery by 2050. Wine tourism, through the engagement of consumers, may be an important management strategy for ecosystem services. This article describes an immersive biodiversity experience. Its purpose was to create a wine tourism offer package for a biodiversity trail set in a 70-hectare vineyard in Douro. A UNESCO world heritage site, the global wine heritage landscape, was used to create the wine tourism and educational information, to engage consumers in nature conservation stewardship activities.

1 Introduction
Wine tourism is a growing revenue side-stream for wine businesses and regions. Besides complementing the wine product with a content in which landscape, gastronomy, culture and history match its tangible value with intangible, wine tourism generates an experience that transcends the standard tastes of wine, converting it into an experience.
Over the past decades, consumers represented a shift in the development of the activity, the return of tourism to Portugal since the end of 2021 promises to optimize the growing trend wine tourism was knowing well 2019.
In 2023, the United Nations (UN) will hold the Conference of Parties (COP11) of the Convention for Biological Diversity (CBD) aiming to revive nature and biodiversity loss and make the world nature-positive by 2050 and full nature recovery by 2050. As the main theme, the European Union (EU) Biodiversity Strategy for 2030, a core part of the European Green Deal, proposes to reverse the decline of pollinators, restore degraded ecosystems, stop mangling nature and establish a minimum of 10% of demand with biodiversity-rich landscape features.
Wine tourism may continue to develop the engagement of consumers with wine as an intangible dimension. Furthermore, the experience offer and providing a further “add to” to “taste”, biodiversity and nature stewardship. Sustainability has been increasingly referred to a “story” used to describe wine tourism with the wine region they visit and to add a driver for trust in authenticity, quality and sustainable practices used by wine producers. Going one step further, we propose wine tourism may be used to educate consumers about the need to protect nature, ecosystem and biodiversity of these places where wine is produced and the global sustainability benefits that may be derived from that protection. The goal being to convert wine tourism into stewardship through their choice of wines produced in respect of nature, ecosystem and biodiversity and therefore possessing the choice of nature-positive wines.
Considering all these elements, we have created a wine tourism offer package for a biodiversity trail set in a 70-hectare vineyard in Douro wine region. The Douro wine region, a UNESCO-listed wine landscape world heritage site, was considered over more than 10 years as a biodiversity and nature conservation infrastructure practice, was used in the definition of the trail layout and the educational information provided for each stop over. The trail was designed to provide a one-hour easy walk connecting visitors directly inside the vineyard, allowing them to see, hear and smell features of the specific nature in the surrounding ecosystem, which always ensuring their safety and comfort.
In this work, we describe how scientific information was used to create the trail elements and educational information, providing an extra, intangible dimension to wine tourism meant to engage them in sustainable choices in nature conservation stewardship activities.

2 Background
Landscape is a leading wine company benchmarked in Portugal and with production operations spanning 1000 hectares in Douro wine region, more than 1000 hectares in Portugal, of which 614 in the Douro wine region (Douro). Landscape adopted integrated production (IPROD) certifications across all its vineyards for more than 20 years.
In this scope, Landscape has for long been promoting

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Assessing the differences of two vineyards soils’ by NIR spectroscopy and chemometrics

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ABSTRACT
Soil properties influence greatly the status of soil plants which consequently influence the quality of wine. Therefore, the control of viticultural management, it is extremely important to assess the physical and chemical parameters of vineyard soils. In this study, the soils of two vineyards were analyzed by near-infrared (NIR) spectroscopy and multivariate statistical reference procedures. The main objective of this work was to evaluate the applicability of NIR spectroscopy to predict soil characteristics. The soils of both vineyards were used to quantify differences in soil parameters. The data that a single sampling point were selected at each vineyard taking into consideration the soil type and depth at different depths. The data analysis was performed using analysis of variance (ANOVA), principal component analysis (PCA) and partial least squares discriminant analysis (PLS-DA) partial least squares (PLS) regression. The ANOVA results revealed that 12 out of the 18 parameters analyzed through the reference procedures can be considered statistically different ($p < 0.05$). Regression PLS-DA obtained results revealed a clear separation between the sources of both vineyards either considering NIR spectra or the chemical parameters. The PLS-DA model was able to predict 100% of the chemical parameters for the distribution of both vineyards. PLS regression analysis using NIR spectra revealed R2 and R2EV values higher than 0.85 and 0.9, respectively. The model was able to predict 100% of the chemical parameters for the distribution of both vineyards. PLS regression analysis using NIR spectra revealed R2 and R2EV values higher than 0.85 and 0.9, respectively. Concluding, these results demonstrate that it is possible to discriminate the soils of different vineyards through NIR spectroscopy as well as to quantify soil chemical parameters through soil NIR spectra in a rapid, accurate, cost-effective, simple and environmentally friendly way when compared to the reference procedures.

1. Introduction
In the wine and grape industries, a wide knowledge of soil is extremely important, as it allows a global understanding of the several elements that influence the wine performance [1]. This information can help to properly manage the vineyard's environmental system.

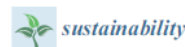
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Prémio “Inovação CNOIV”

✓ O artigo científico **“Sustainable Development Directions for Wine Tourism in Douro Wine Region, Portugal”**, foi publicado em 2022 na revista *Sustainability*, das autoras **Paula Silva e Ana Trigo**, que vêm receber este prémio.



Review Sustainable Development Directions for Wine Tourism in Douro Wine Region, Portugal

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Abstract: Despite sustainable wine tourism being one of the hottest topics of the moment, there is still a considerable knowledge gap. If managed with due care and consideration of the region's carrying capacity, wine tourism can be an essential regional development tool for improving business performance, environmental awareness, and community values. On the other hand, it can be responsible for negative environmental impacts, creating local resentment. This paper explored and contextualized wine tourism and sustainable winegrowing practices in the Portuguese Douro wine region. The aim was to offer practical recommendations and directives for such a unique landscape. From the adoption of regenerative agriculture and natural-based solutions at the field level to engaging in sustainability wine programs or certification schemes integrating both sectors, it is indispensable to develop frameworks to assess sustainability performance, tourism development, and the impact on the local population. Nevertheless, to accomplish business success and territorial development, a win-win relationship between all stakeholders is foremost needed. The Douro region must therefore start by investing in stronger collaboration networks between local actors through careful and integrated planning so that the needs of all interested parties, including its residents, are considered and incorporated in future sustainable tourism initiatives.

Keywords: terroir; viticulture; wine tourism; sustainable agricultural practice; clean productions



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1. Introduction

Wine tourism, as an experiential tourism activity that brings together wine, food, culture, and the experience of wine and how it is produced, has huge potential for wine-producing areas. It is important to promote sustainable tourism as a tool to attain sustainable development that can be used as a means of rural livelihood activity and an avenue to safeguard the natural environment. Wine tourism has multiple aims of promoting the economic wellbeing of local wine producers without compromising the integrity and quality of the natural environment. Thus, while providing a learning and a fulfilling wine experience to the tourists, it should support the conservation and sustainable use of natural resources and positively benefit local people and communities [1].

Wine tourism has long benefitted many Douro Demarcated Region (DDR) wineries. It offers various sources of income that wineries pursue such as accommodation, cellar door sales, events, and wine and food festivals [2]. It is seen as a brand differentiator that allows wineries to meet consumers and promote a long-term relationship with the wine consumed at its place of origin. Nevertheless, wine tourism must also encompass an expanding commitment to environmental issues such as biosecurity and sustainability. Since being sustainable can create benefits for the companies (in terms of marketing, corporate image positive feedback, or cost savings), sustainability has been used by winegrowers