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PROJECT TITLE

Alves De Sousa's "New Old Vineyards"

COMPANY NAME

DOMINGOS ALVES DE SOUSA

ABSTRACT

Douro's unique viticultural history is inspiring the Future of Alves de Sousa family's vineyards. From the comparison of the different planting systems used in the Douro over its history it emerged the "New Old Vineyards" model, combining the best of Douro's famous old vineyards with a technically modern, precise and sustainable viticulture to ensure the identity of Douro's wines and face Present and Future Climate Challenges.

STARTING DATE: __01__/_02/ 2014 | **ENDING DATE:** _no ending date; this work will always continue and evolve setting the guiding lines for the Future of the Alves de Sousa family's vineyards, winery and wines.

SUSTAINABLE TARGET

Establish the vineyard model that will adapt the best to Present and Future climate challenges in the Douro region.

PARTNERS

Alves de Sousa

COMPANY SUMMARY

The Alves de Sousa family is making wines in the Douro Valley for 5 Generations. The old and ever-present wish to find the best embodiment of a Douro vineyard lead Alves de Sousa to work only with indigenous grapes from the family's vineyards.

The quality and singularity of its wines have been widely recognized with distinctions and mentions in the most acclaimed national and international publications, with a very special highlight being awarded two times "Portuguese Wine Producer of the Year" by the most important Portuguese Wine Magazine



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(“Revista de Vinhos”). Alves de Sousa became the first ever to receive twice the most coveted and prestigious distinction for Portuguese wine producers.

REASON WHY/ MOTIVATION

Douro’s wines are particularly recognized for its old vines and wines like Quinta da Gaivosa, Vinha de Lordelo or Abandonado are living proof of its character and quality.

However, it is critical to prepare the Future, planting the new vineyards for the coming generations. It is the cycle of Life.

Douro’s vineyards have passed through different stages over its history

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From the manually grown pre- and post-phyloxera terraces passing to the introduction of mechanization with “patamares” and the vertical vineyards (“ao alto”).

In this particularly important moment for the definition of the Future of Douro’s vineyards, it is finally possible to fully compare the benefits and difficulties of the different options to develop the best model in terms of quality, identity and sustainability.

Which are the best adapted to our natural conditions and also ready to face the Future climate challenges?

Which are the most sustainable environmentally and which may subsist for more years?

Which are the ones that give us the best quality wines and specially the most identity?

From a detailed technical and scientific comparative analysis, it was possible to conclude that... our ancestors had already found the solution 100years ago. The traditional vineyards (post-phyloxera terraces) revealed all its viticultural, environmental and quality assets therefore becoming the model for the Alves de Sousa family’s new vineyards since 2014.

DESCRIPTION and STRATEGIES



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Alves de Sousa's "New Old Vineyards" model recreates the key elements of the old traditional Douro vineyards blended with a modern precision viticulture:

- The preservation of most of the natural topography of the slope, keeping the old stone walls, with the vines planted following the curve lines, minimizing the erosion potential impact;
- The traditional double-guyot training system - it proved over decades to be the one that is the best adapted to Douro's climate but also to climate change, being much more resistant to drought and to sun burnt; it has also a great natural balance between the leaves and the grapes produced, with a smaller intervention;
- The traditional high density of planting - 8.000plants/hectare - another element that improves the adaptation to the environmental conditions: more resistance to water stress, as it leads to less losses of water per evapotranspiration (the vines are more compact = less leaves = less transpiration / the soil is more covered with the higher density of vines = less water soil evaporation). The proximity between the rows of vines also leads to a shading effect, protecting it from the intensity of the heat and of the sun radiation over the Summer; it also enhances the root development in depth, exploring deeper layers, making it better adapted to vintages variations and enhancing the "soil"/"minerality" contribution in the vineyards terroir.
- The traditional field-blend but with a new organization - the parcel has a group of different varieties co-planted but instead of being randomly positioned (as it was in the past) it is organized instead per rows or per micro-blocks. For example - in one of these new vineyards we have in 1,5hectares 12 different grapes, including not only Touriga Franca, Nacional and Sousao but also old varieties such as Donzelinho Tinto, Tinta Bairrada, Malvasia Preta, Tinta Carvalha and others. From this multi-varietal combination and genetic diversity, results a greater resistance to the several biotic (plagues, diseases) and abiotic (climate) stresses. Besides of this greater resiliency there is also a gain in the complexity that results from all the interactions between the different varieties in the vineyard, during the vinification and then in the final wine, something that is remarkable and that proved its value in Douro's old field-blends.
- In our "New Old Vineyards", we are now guaranteeing that we will have it also for the Future.

ACHIEVEMENTS SO FAR

Recent vintages like 2017, the driest year ever in the Douro region since there are records, increased the discussion around vines water needs with many growers advocating for the authorization of irrigation as the solution for the Future. However, if there is water shortage, where is the water to irrigate? Water is a limited and potentially increasingly scarce resource and Governments around the World are already implementing policies to restrain its use, namely for agricultural purposes. Vineyards in Australia and California for example are not only struggling but already taking measures, imposing limits to water use.



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The first “New Old Vineyards”, planted in 2014, faced 2017’s highly severe drought and heat, still at a very tender age (3years) with praise and distinction! Not only all the young vines survived without any irrigation, but also still allowed its first production ever, with a very consistent and steady ripening and a final quality that revealed a balance difficult to achieve in such conditions.

In the following years the vineyard’s development was fantastic and productions have been naturally increasing in quantity but even more in quality, with the latest 2019 vintage showing already a quality level and a character that is surprising for its age and that shows its great potential for the Future.

LESSONS LEARNED

Past traditions and practices in old regions like the Douro seen through the lens of Present science may held many answers for the Future and Douro’s old vineyards are a living depository of proven solutions and knowledge that can and should be used to define the guiding lines for the Future.

The wisdom of the Past, proven and complimented by Present’s scientific knowledge, inspiring and defining a Future of Sustainability and Identity.

In a short term, it naturally implies some constraints as the mechanical tools we have today are not yet the best for such conditions, making it still very dependent of manual work.

However we have to consider that we’re aiming to plant again vineyards for the next 100years (a longevity that was lost in the other planting systems) so we have to think ahead not only in terms of the conditions we’ll face but also the new tools we’ll have. And with the speed of technology development we won’t have to wait 100years to have many new solutions for some of these challenges.

NEXT STEPS

1. Preservation and study of the individual behavior of Douro’s most rare indigenous grapes to better understand it’s contributions and to be able to place it correctly;
2. Use of new tools like farming drones in Douro’s New Old vineyards (but also in the proper Old ones) not only to help solving human resources shortage but also towards a more precise and sustainable viticulture.

POTENTIAL FOR REPLICATION

100% Replicable and the more this model of vineyards is preserved and recreated, more and better tools and viticulture practices will be developed to improve and support it.