Congresso Nacional das
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14 e 15 de novembro de 2019

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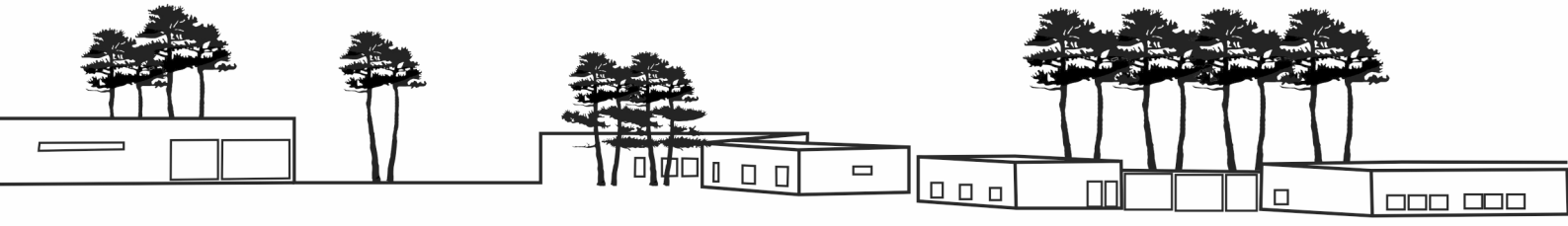

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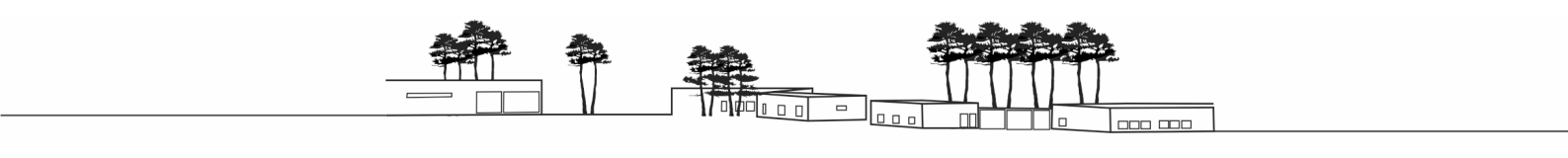

LIFE CYCLE ENVIRONMENTAL IMPACTS OF VINEYARD IN THE SOUTH PORTUGAL

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Abstract: Agricultural activities have multiple negative impacts on the environment. In the wine sector, several studies have used the lifecycle approach to identify and measure these environmental impacts. The main aim of this study was to determine the environmental impact of two vineyards located in southern Portugal, considering 1 kg of grape yield, using the life cycle assessment (LCA) methodology (ISO 14040). The system boundary studied was "from cradle to gate" including grape production and harvesting. The methodology included the use of GaBi software for the assessment of different impact categories (CML 2001 Methods), including the global warming potential (GWP), acidification potential (AP), eutrophication potential (EP) and abiotic depletion potential (AD). The results show that the contribution in the AP and EP categories were associated with the use of agricultural machinery, while the AD was mostly due to external inputs, namely the production of pesticides. On the other hand, the GWP category, received a very equitable contribution among all production processes. This study allowed for the identification of which production processes may contribute the most to the different environmental impacts, thus prompting the identification of improvement opportunities for more sustainable production in the vineyards stages of the wine production.

Keywords: Vineyard; Life cycle assessment (LCA); Environmental impacts

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