EVALUATING THE ENVIRONMENTAL IMPACT OF TWO BEEF PRODUCTION SYSTEMS USING LIFE CYCLE ASSESSMENT

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Keywords: beef, life cycle assessment, extensive production, intensive production, fattening

Abstract *Beef production has been identified as an important source of environmental impacts. Life Cycle Assessment (LCA) has been applied worldwide to identify key processes/phases for environmental improvement in beef production. In this study, LCA is used to assess the environmental impacts of beef produced in two different production systems, namely extensive and intensive fattening. A "cradle-to-gate" approach is adopted and the functional unit is 1 kg of beef carcass weight at the farm gate. The results show that the environmental "hot spots" are related with feed production and on-farm relate emissions in both systems. The results also suggest that the use of extensive production during the fattening stage has lower environmental impacts per kg of carcass. The largest differences between the two systems were found in marine eutrophication category.*

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GREENHOUSE GAS ASSESSMENT OF WINE PRODUCED IN PORTUGAL

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Keywords: Global Warming, Greenhouse Gas (GHG), Life-Cycle Assessment (LCA), Wine

Abstract *This article presents a life-cycle (LC) greenhouse gas (GHG) assessment of wine produced in five wine regions of Portugal (Bairrada, Dão, Távora-Varosa, Douro e Vinho Verde). A cradle-to-gate approach was followed, including grape growing, grape transportation and winemaking. The GHG intensity of the entire LC of wine production can vary from 151 to 446 g CO_2eq per 0.75 L of wine (without wine packing and final transportation). The results showed that grape growing is the LC stage with the highest GHG emissions (between 88% and 92%). There is a significant variation of wine GHG intensity among the various producers, but not for the different types of wine in each producer.*