LIFE-CYCLE GREENHOUSE GAS EMISSIONS OF PORTUGUESE OLIVE OIL

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Abstract *The main goal of this paper was to assess the greenhouse gas (GHG) intensity of olive oil production in Portugal. A life-cycle model and inventory were implemented for the entire production process, including a comprehensive analysis of olive cultivation, olive oil extraction, packaging, and distribution. Data originates from five differently- sized Portuguese olive growers and from a total of six olive oil mills, representing the three extraction processes in use: three-phase extraction, two-phase extraction, and traditional pressing. The results show that the GHG intensity lies in the range 1.8-8.2 kg CO2eq/liter and that the main contributors were fertilizers (production and field emissions). Efficient use of fertilizers thus seems to be a key factor for mitigating the GHG intensity of olive oil production.*