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LIFE-CYCLE CARBON FOOTPRINT ANALYSIS OF THE PARMA HAM P.D.O. (PROTECTED DESIGNATION OF ORIGIN) ON-THE-BONE

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Abstract

The Rural Development Plan (RDP) represent the most important source of contributions and support for the agro-food sector companies in Italy. The European Community planning tool based on a European Structural and Investment Fund (SIE) allows the agricultural and forestry entrepreneurs to undertake projects and investments for the improvement of their companies. During the 2014-2020 RDP program, the Emilia-Romagna region (Italy), promoted a rewarding mechanism to support those companies carrying out Carbon Footprint (CF) study of their product supply chain.

For this reason Fontane del Duca Ltd decided to implement the CF of its Parma ham P.D.O. (Protect Designation of Origin) on-the-bone. The Functional Unit (UF) chosen for this study is 1 kg of Parma ham P.D.O. on-the-bone, net of the non-edible part. The Product Category Rules (PCR) considered in the analysis refers to the PCR “Preserves and Preparation of Meat”, UN CPC 2117. Primary data was used for all the life cycle phases (slaughterhouse/sectioning, meat processing and distribution), except for the pig farming phase and the packaging end-of-life scenarios. Moreover, for the breeding stage modelling, processes from the Agri-footprint 2.0 database are used, adapting it to the Italian heavy pigs breeding method.

The goals of this study are two: first of all to evaluate the overall impact of the Parma ham P.D.O. on-the-bone and, on the other hand, to analyze how the real accuracy of the data influenced the results. The overall impact is 23.11 kgCO₂eq, with the most significant contribution due to the upstream module, in particular for the farming stage (68.4%), in line with other benchmark. Then a sensitivity analysis was performed to assess the effects on the total impact of the economic allocation data in the slaughterhouse stage.

Key words: carbon footprint, greenhouse gas emissions, ham, life cycle assessment, meat sustainability

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