01-05.09.2024

Life Cycle Assessment of different poultry production systems around Europe: mEATquality project

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One of the main objectives of the H2020 mEATquality project is to generate information about producing more sustainably through extensive husbandry practices, meeting animal welfare and environmental concerns.

The main tool used for the environmental sustainability of the farms evaluated is Life Cycle Assessment (LCA). This LCA study collects data from 60 fattening broilers farms from 2 countries (Germany, and Poland) and covers diverse models and husbandry practices, ranging from large intensive farms to small, organic, and free-range ones. The manure handling emissions were calculated using Tier 2 equations from IPPC guidelines. The not differentiable emissions, such as energy consumption, were assessed by economic approach, and environmental impacts were calculated with AGRIBALYSE® database. The limit of the system are “cradle to gate”.

The carbon footprint (CF) obtained for 42 days old broilers from conventional systems was 1.40±0.02 kgCO2eq kg live weight-1, with feeding representing 88% of emissions; while in organic systems broilers achieved 80 days of live with a CF of 2.67±0.94 kgCO2eq kg live weight-1, and the feeding representing 47% of emissions.

Besides that, different CFs of those systems, productive performances, levels of extensification and handling practices show different environmental impacts within farms and allow to differentiate systems and farms.

This project has received funding from the European Union’s Horizon 2020 research and innovation program under Grant Agreement No 101000344.