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LA RICERCA SCIENTIFICA NEL PROCESSO DI
TRANSIZIONE ECOLOGICA IN AGRICOLTURA

Social Life Cycle Assessment of pig rearing facilities equipped with smart solutions for pollution control

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In 2020, in Europe the value of the animal-based products achieved 172 bn €, the 40% of the total agricultural output. Consistently, European pig production has a relevant socio-economic weight. In the EU-27, in the last years averagely have been reared 150 million pigs, representing nearly half of total EU meat production and the 35 % of total meat output.

In parallel with this growth, significant changes are required to the sector to meet new concerns and requirements. Consumers are increasingly calling for ethical production processes for food products. The Social Life Cycle Assessment (S-LCA) defined by the United Nations Environmental Program guidelines is one of the most widespread methodologies in evaluating social sustainability of production. S-LCA evaluates how production processes impact or relate to social issues, called subcategories in the methodology, such as Child Labor, Health and Safety, Cultural Heritage, Poverty Alleviation. Subcategories can be allocated to six stakeholders' categories: Worker, Local Community, Value Chain Actors, Consumer, Society, Children and Animals.

This study proposes a methodological framework for a life cycle evaluation, through S-LCA methodology application, of pig livestock system paying particular attention to the adoption of solutions for emissions reduction. For the analysis, workers, farmers, local communities, consumers, society and animals were considered as stakeholders. A set of indicators was selected through a literature review and farmers surveys. For each of these indicators, 4 levels reference scales were defined for data evaluation.

This study is carried out as part of the APPROACh project aiming at abating piggeries indoor emission by adopting air filtering systems.

This is one of the first studies that aims to define a shared methodology to apply S-LCA to livestock farms. Considering the future requirements of livestock activities, S-LCA can play a key role in improving the social performances and sustainability of the sector.