Influence of feed supplementation with BSFL on the production price of chicken meat

D. Ristic[1,2], S. Smetana[1,3]

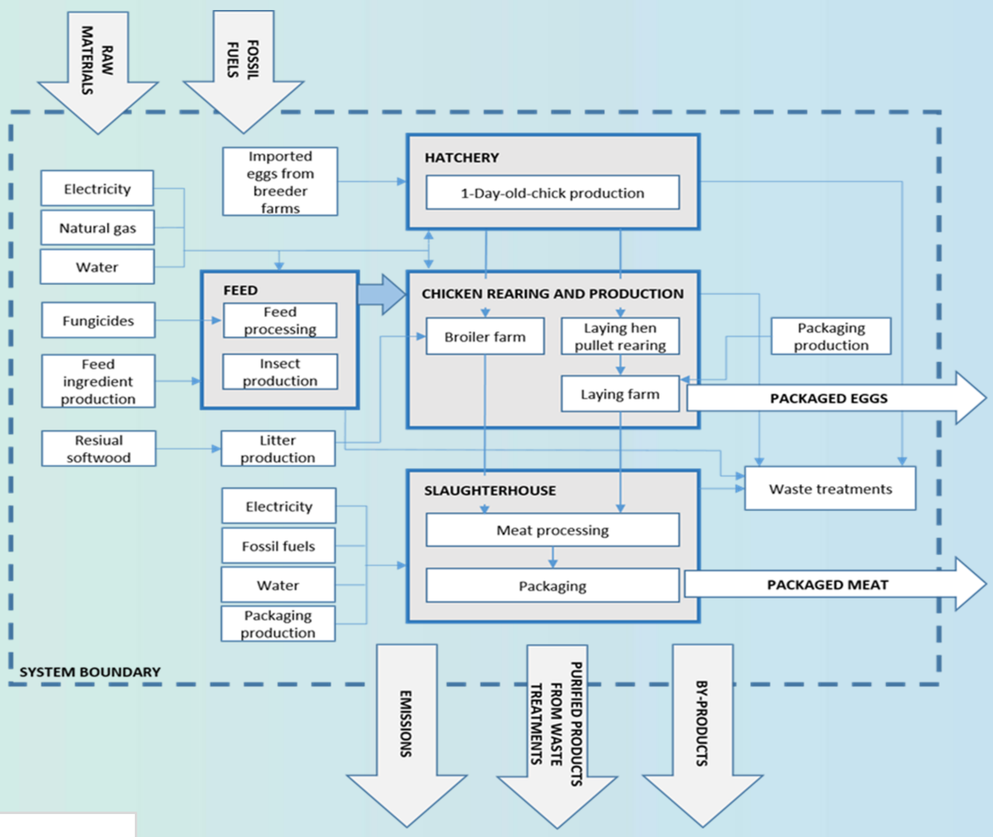
[1] Deutsches Institut für Lebensmitteltechnik (DIL) e. V., Prof.-von-Klitzing-Str. 7, D-49610 Quakenbrück, Germany
[2] Institute of Food Technology, University of Natural Resources and Life Sciences (BOKU), Muthgasse 18, Vienna, Austria
[3] Institute of Food Quality and Food Safety, University of Veterinary Medicine Hannover, Foundation, Bischofsholer Damm 15, Hannover, Germany

Background

The main goal of the research was to compare the economic efficiency and economic sustainability of organic chicken meat produced with the supplementation of 10% of Black Soldier Fly larvae (BSFL) in the diet with the organic meats produced conventionally. The model included the 240-chicken farm, rearing regional Italian, organic, slow-growing Label Naked Neck broilers, fully corresponding to what was done within the experiment, and excluding the scientific activities.

Methods

The LCC was developed to ensure a structured and quantitative approach. Life Cycle Costing (LCC) system boundaries of the study included a cradle-to-slaughterhouse gate perspective with extensions of waste treatments and therefore considered the whole chain of poultry production. The main systems included are feed production, larvae production, hatchery, poultry production, and the slaughterhouse. The profit of the bird-rearing company was not included in the analysis. The modeled product was 1 kg of packed ready-to-cook chicken carcass.



Results

- Almost 10% cost increase with the addition of the BSFL
- The 20% cost difference between the sexes can be observed
- The production was price in all scenarios higher than the price of the organic chicken currently present on the Italian market
- The highest contribution to the price was coming from labor (over 50%), followed by the feed

Key Takeaways

The production price in all scenarios was higher than the market price of organic chicken. Improvement in the efficiency of both the insect and the chicken farm is needed. Possible options include an increase in scale, a feed substitution with BSFL (instead of supplementation), and a choice of a chicken breed with a shorter life cycle.

DIL Deutsches Institut für Lebensmitteltechnik e.V.
Prof.-von-Klitzing-Str. 7
D-49610 Quakenbrück
www.dil-ev.de

Food Data Group
Dusan Ristic
d.ristic@dil-ev.de

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