HoloFood

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Food sustainability has become a global concern both for consumers and food production companies. There are many unknowns related to optimising food production, in particular with regards to natural food additives such as pre and probiotics in order to encourage growth and wellbeing of farmed animals. However, there is still much to be discovered as to the impact of such additives on the animal microbiome, and on the animal itself. Unless a more holistic approach is taken, whereby both the host animal and their respective microbiome is examined together in their response to their diet, attempts for improving feed additives may never reach their full potential.

To address this issue, a newly funded Innovation action, **HoloFood**, showcases a holistic approach that will improve the efficiency of food production systems, by attempting to decipher the molecular and physiological processes triggered by feed additives across animals with different genetic background, and raised under different controlled environments.

The HoloFood project (Hologenomics for sustainable food solutions) has a total budget of 10-million Euro officially launched on 1st January 2019. It will run from 2019-2022 and is funded by the European Union Horizon 2020 funding programme.

HoloFood will concentrate its efforts on optimizing two main food systems that have high importance within worldwide food economy: chicken and salmon. HoloFood will characterise not only the animals' associated microbiomes' genomes, transcriptomes and metabolomes but also how the microbiome interacts with animals' genomes and transcriptomes in relation to key performance indices and animal welfare issues. This 'holo-omic solution' will then be piloted in commercial production environments in poultry and aquaculture.

The knowledge generated will be used by our industrial partners Chr. Hansen A/S and Lerøy Seafood Group, to optimize food additive administration strategies of already implemented products, by tailoring them to the genetic background and developmental stage of the animals, as well as production environment. This will improve the quantity, quality and safety of the produced food, as well as increase the sustainability of food production and animal welfare. HoloFood will also serve to raise awareness about the importance of microbiomes in food production, and to establish bridges between companies and academia to foster science-based strategies.

HoloFood is coordinated by the University of Copenhagen. In particular, Prof. Tom Gilbert (head of the Section of Evogenomics, GLOBE Institute), will coordinate the project, together with Assistant Professors Antton Alberdi and Morten Limborg who are the Scientific Managers of the action. The innovation action gathers 10 academic and industrial partners from six European countries (Denmark, Norway, Germany, UK, Spain and Poland), forming a dynamic interdisciplinary group of fundamental researchers, applied scientists and industry partners with a track record of bridging basic science to applications in the food industry.

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Hologenomics for sustainable food production

To find out more about the project or get in touch with us please contact us at:
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