Eco-friendly pig and poultry production

March 25 2014

Credit: Thinkstock

Slowing the rate of climate change and improving energy use efficiency, whilst also feeding the growing global population, are key targets for the livestock sector, policy-makers and scientists alike.

Through a better understanding of the interactions between animal genetics, gut characteristics and the attributes of feed, a major EU-funded initiative aims to develop strategies to improve feed use efficiency (FCE) in pigs and broiler chickens whilst also reducing their ecological footprint. There is plenty of existing research on these issues but it could be argued that such is currently underutilised.

The ECO-FCE project, funded by the European Union's Seventh Framework Programme and launched in Belfast in February 2013, is

compiling this information into one, easy-to-use warehouse. This will be available for use by the pig and poultry industries to predict the effect of management and feeding practices on FCE and environmental pollutants.

Using cutting edge technologies known as 'omics', ECO-FCE will also identify characteristics of gut structure and microbiome which promote 'good' and 'poor' FCE in pigs and broiler chickens. Using this knowledge, the gut will then be manipulated to promote a good gut microbiome in compromised animals. Industry tools that will be developed include the ECO-FCE hub (developed from the ECO-FCE 'warehouse') which will allow end-users to extract information specific to their personal query; an ecological calculator and genomic models. These tools will be road-tested prior to final release to ensure that they are user-friendly and thus highly adopted within the pig and poultry industries.

At the same time, the impact of FCE on product quality and on animal health and welfare is being monitored.

As Austria-based Doris Wibmer-Falch, who is from the project, points out the pig and broiler chicken industries are key contributors to the European economy and one of the main ways in which sustainability can be achieved is through improving feed conversion efficiency. She said, 'ECO-FCE will substantially advance animal nutrition and feed science in both pigs and broiler chickens. Precision feeding of pigs and nutrient restriction of broilers will be key areas of the research. In addition, the efficacy of feed additives in improving FCE and reducing the ecological footprint will be assessed.'

The EUR 6 million project lasts 48 months until 2016 and is being coordinated by the Queen's University Belfast, with various partners including the Agri-Food and Biosciences Institute in the UK, Ireland´s

Teagasc Agriculture and Food Development Authority and the University of Technology and Life Sciences in Poland.

A special network has been established which will allow interested parties to become more involved in the project. Members will receive regular updates on the progress of the project and its findings and will also be able to direct suggestions, comments and ideas to the ECO-FCE experts. Anyone wishing to receive further information related to ECO-FCE can register at the ECO-FCE stakeholders database.

More information: www.eco-fce.eu/index.html

Provided by CORDIS