

Completion Report for BSAS Scholarships

Name and affiliation:

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Award Name and value of the award:

The 2018 Murray Black Award, £1,500

Was any additional funding secured to support the activity?

(If yes, please state the value and source of funding):

n/a

Start/end date of the award:

20 June 2018 – 24 June 2018

Summary of the award (Briefly describe the objectives and how was it undertaken):

(approximately 300 words)

Thanks to the Murray Black Award, I was able to travel to the United States, where:

- 1) I gave two presentations focusing on investigating the interactions in the digestive tract of the pig between exogenous phytase, and Phosphorus (P) and Calcium (P) contents in pig feed in order to lead to a better feed utilization at the Annual Meeting of the Animal Science Modeler's Group in Knoxville, Tennessee based on my PhD research;
- 2) I visited swine research facilities at the Iowa State University and gave a seminar outlining my findings to fellow postgraduate students at the University.

Benefits of the Award:

This is the main part of the report and the two sections below should be approximately 1000 words in total. You may focus on benefits to yourself, to the animal science community, or both – depending on the nature of the activity undertaken.

Benefit of the award to you (e.g. new knowledge or skills, new contacts and collaborations):

- A chance to present at the aforementioned conference gave me an opportunity to receive feedback on my ongoing PhD project from leading authorities in the field of mathematical modelling in animal sciences and consequently enhanced the quality of my research.
- The Murray Black Award allowed me to start developing a network of professionals and scholars in the field of Animal Sciences, which could result in future research collaborations/employment.
- Visiting Iowa State University provided me with an insight into pig research carried out at these facilities; in particular I really enjoyed learning about the research on impact of soluble and insoluble fiber on gut function, physiology and immune system stimulation led by Prof John Patience.
- I was able to discuss and exchange ideas regarding future Ca and P research plans with the leading academics in the field.

Benefit of the award to the animal science community, academic and industrial:

- My first conference presentation addressed the issues of digestion and utilization of a usually neglected nutrient – Ca. I sought to update and clarify the current knowledge of Ca absorption and retention in growing and finishing pigs by demonstrating that these two processes are driven by the interplay between several dietary characteristics. Results of this study could help establish requirements for digestible Ca and replace the current, inadequate recommendations expressed on the basis of total Ca. Formulating diets based on digestible Ca should benefit the pig industry by optimizing both Ca and P utilization, and limit the potential environmental damage associated with the excess P excretion.
- My second conference presentation investigated two feed intake regulation mechanisms in the context of growing and finishing pigs across scenarios of different P contents. The overarching aim of this presentation was to develop a mechanistic model predicting feed intake and the consequent animal growth in pigs given access to different P feeding strategies. This particular simulation model could benefit the pig industry by further optimizing P utilization and help formulating diets which maximize animal performance and minimize P excretion.

Other supporting information:

n/a