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Completion Report for BSAS Scholarships

Name and affiliation: Alex Brown, SRUC (Scotland's Rural College)

Award Name and value of the award: Alan Robertson Award, £750

Was any additional funding secured to support the activity?
(If yes, please state the value and source of funding): No

Start/end date of the award: 17th – 22nd August 2014

Summary of the award (Briefly describe the objectives and how was it undertaken):
(Approximately 300 words)

I applied for the Alan Robertson award to allow me to attend and present at the 10th World Congress for Genetics Applied to Livestock Production (WCGALP), which was held in Vancouver, Canada in August 2014. Attendance at the conference allowed me to learn about a range of different areas within animal genetics research, I was also able to network with researchers from across the globe, and present work from the second year of my PhD, "Holstein-Friesian relationships and the impact on accuracy of an across breed evaluation."

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):

The award allowed me to attend and present my current research on the potential for across-breed genomic evaluations in dairy cattle at the 10th WCGALP in Vancouver. This was the first opportunity I have had to present my work to an international audience, which was a rather terrifying but definitely beneficial experience, and my confidence with presenting my work to an audience has grown since.

The potential for applying genomic evaluations across populations was a hot topic at the conference, with 2 sessions being dedicated to this area of research. I was therefore able to attend talks from others pursuing similar goals to mine, and came home with a number of ideas on how to conduct the rest of my PhD project.

Being such a large conference, I was also able to attend a wide range of other talks relating to the genetics of both livestock and companion animal species, which expanded my knowledge of the animal breeding sector as a whole, and I particularly found the plenary talk by Michael Lohuis from Monsanto on the need to bridge the gap between science and society's perceptions of science very thought-provoking.

I also made some valuable contacts who may be able to help me throughout the rest of my PhD and beyond in the animal sector, hopefully in industry.

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

Although genomic evaluations are becoming widely used in the dairy breeding industry, accurate evaluations are only available for animals from large pure breeds. Many other breeds of cattle would benefit from the implementation of genomic evaluations, but the number of animals available for genotyping is too small to create a single breed reference population of sufficient size. It is for this reason that attempts to develop across breed evaluations are currently such a hot topic.

My paper on a multi-breed evaluation between Holsteins and Friesians showed that there were differing levels of relationship between the two breeds, and that the level of relationship between breeds is likely to have an impact on evaluation accuracy. It also showed that when analysed genetically, the Friesian breed seems to separate into two distinct groups, and so has shown that people may need to take care in exactly how they define a breed for the purposes of an across breed genomic evaluation. This information will be of use to researchers across multiple species when trying to implement genomic evaluations across breeds or genetic lines.

Other supporting information:

I would like to officially express my thanks to BSAS for this award and the opportunity to travel to Vancouver for this conference, which would not have been possible without their support.