

Murray Black Award Report

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59th Annual Meeting of the European Association for Animal Production

Vilnius, Lithuania

24th – 27th August 2008

Summary

I travelled to Vilnius to attend the EAAP conference and present my abstract titled 'How do worm-resistant sheep reduce faecal egg count?'. I think that my presentation was generally well received and mostly attended the sessions dealing with genetic improvement. The highlight of the conference was the tour to the Lithuanian Animal Science Institute.

My presentation, session 26 (26th August).

The presentation of my work was one of the primary motivations to attend the EAAP conference. I presented in session 26, 'Environment and breed aspects of functional traits in ruminants'; following invited presentations by E. Wall, 'Genetic and environmental effects on fitness traits in dairy cattle', and my PhD supervisor Prof Steve Bishop, 'Breeding for improved disease resistance in ruminants'.

I was happy with my delivery of the presentation, although at one stage I did attempt to coin a new word with an interesting tongue twist! Despite this minor hiccup, I think that generally the presentation well received. The several minutes of questioning following my presentation (hopefully) reflects the degree of interest in my area of research. I was happy to receive one particular question which exactly addressed the hypothesis from work I presented at the BSAS conference in March this year. There were approx. 50 delegates attending my session.

Conference scientific program (24th – 27th August).

I attended mostly the animal breeding and genetics sessions during the scientific program. I was pleasantly surprised to find that there was at least one relevant session for my research interests every day of the program. I also attended parts of the short tailed sheep and innovation in farming sessions for some appreciation of European agriculture.

I have chosen 3 presentations of particular interest to report on:

1. Genomic selection: procedures and methods (Mario Calus, Netherlands)

This was a nice summary of genomic selection to date. The presentation was excellent in that it gave a very well rounded opinion on all aspects of genomic selection, right through to the application at the farm level. There were two important points raised; firstly the potential breakdown of linkage disequilibrium (LD) between the trait and markers, and secondly the issue that a denser marker maps is required for genomic selection across breeds. It would be interesting to know how far the current density of markers will extend, for example could a Holstein population in Europe predict breeding values for Holstein's in South America?

2. Survival of the currently fittest: genetics of rainbow trout survival across time and space (H. Vehvilainen, Finland)

This presentation concluded that the genetic architecture of survival is not stable over time and environments. For example, from their data heritability of survival over the

10yrs of data was low (0.08-0.17) but that individual cohorts could have a wide range of heritabilities (0.07-0.70). This highlights the caution with which ‘survival’ should be used as a selection criterion. Selection for survival in one year may not be favourable in the next. From an evolutionary perspective this makes sense, how can the heritability of (long-term) survival be ‘high’ – surely the process of evolution has already selected the fittest animals. Although farming fish has changed the environment a little, I have not seen evidence has contradicted this general rule yet.

3. Genetic parameters for major milk fatty acids and milk production traits of Dutch Holstein-Friesians (W. Stoop, Netherlands)

This was a particularly interesting presentation which concluded that fatty acid (FA) composition in milk could be changed by selective breeding. It was concerning that the FA with the highest heritability, and thus currently under selection when using fat percentage as the selection criterion, were the short-chain FA (considered ‘unfavourable’ for human health). The unsaturated (or ‘favourable’) FA were more under the control of environmental aspects, i.e. management, rather than genetics.

Conference Tour (27th August).

The conference tour was an unexpected highlight of the EAAP conference. I was struck by the organisation and degree of enthusiasm with which we were received. I attended conference tour II which travelled approx. 180km to the Radviliškis region and visited the Beef Co-Operative, the Lithuanian State Pig Breeding Station, a display of native Lithuanian domestic animal breeds (including pigs, hound dogs, sheep, horses, geese and cattle) and the Lithuanian Institute of Animal Science (LVA). A dinner and music concert was held at the lovely 18th century Komaras Palace, where the LVA is situated.



Lithuanian native pig (N.B. the beads under the chin)

Conference social program (24th – 26th August).

The conference social program was extensive. We were treated to the Lithuanian state symphony orchestra on Sunday night, a Lithuanian folk band (complete with a wooden bell display) on Monday night and dinner with concert at the Tokai Palace, just outside Vilnius, on Tuesday night.