

Scotland's Rural College

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8. A panel discussion: broadening learning by incorporating industry professionals in education

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Abstract

Educating future animal breeders and geneticists is fundamentally important. During this training, young scholars, both those completing graduate and post-doctoral studies and those establishing their careers, benefit from understanding the range of professional opportunities available, and the skills they require. This includes exposure to the needs of various livestock sectors. Through a panel discussion in the Education session, industry-based experts engaged in developing nation, extensive, and intensive production systems will share their experiences and discuss opportunities to serve a range of livestock industries. In an interactive session, the moderator will present questions to the panel. This will be followed by an open discussion with the audience delving further into the points raised. The goal of the session is to broaden the attendees' understanding, particularly younger scholars, of the skills needed and professional opportunities available to meet the needs of livestock industries globally in animal breeding and genetics.

Introduction

Study of the theory and application of animal breeding and genetics is a centrepiece of graduate and post-doctoral training programmes in animal breeding and genetics. Yet, to fully meet the demands of modern agriculture, exposure to the diverse opportunities available across livestock sectors needs to part of that learning. Including industry-based professionals in the educational process is one way to fill that gap.

As part of the Education session at the WCGALP 2022, through a moderated panel discussion, industry-based experts engaged in developing nation, extensive, and intensive production systems will share their experiences and discuss opportunities to serve a range of livestock industries. In an interactive session, the moderator will present questions to the panel. This will be followed by an open discussion with the audience delving further into the points raised. The goal of the session is to broaden the attendees understanding, particularly younger scholars, of the skills needed and professional opportunities available to meet the needs of livestock industries globally in animal breeding and genetics.

Materials & methods

The session will be led by a moderator, who will present a series of questions to the panel members to consider. This will be followed by an open discussion with attendees, allow them opportunity to seek further insights from the panel members on the points raised, and to share their own experiences.

Panel members and moderator. The panel members were invited due to their recognized expertise in engaging with developing nation, extensive, and intensive production systems.

Dr Raphael Mrode holds a joint position at the International Livestock Research Institute, Nairobi, Kenya and Scotland Rural College, Edinburgh, United Kingdom. He has been lecturing on the Edinburgh University MSc course on Quantitative Genetics and Genome (QGG) since 2005, is a co-teacher at the international course on QGG at ILRI-BeCA, Kenya and has been principal instructor at similar courses in

South Korea, Romania, Turkey, Nigeria, and Kenya in the last 12 years. He is the author of the book, 'Linear models for the Prediction of Breeding Values', which used in many animal breeding courses.

Dr Katie Olson is the Global Director of Dairy Product Development at ABS Global. She is responsible for creation of dairy genetics and germplasm, developmental dairy genetics research, product validation and elements of genetic services. She is on the board of directors for both the Council of Dairy Cattle Breeding, as well as the National Association of Animal Breeders (NAAB), and is a former chair of the board for NAAB.

Dr Pieter Knap studied animal breeding and aquaculture in Wageningen (NL) and has worked in commercial pig breeding since 1981: currently as Genetic Strategy Manager with Genus-PIC (based first in Scotland and now in Germany) and previously with the predecessor of Topigs (NL), and with Norsvin International (NO). From 2002 to 2013 he was also (vice-)president of the commission for pig production of EAAP.

The sessions moderator is Dr John Cole. Dr Cole is the PEAK Sr. VP for Research & Development at URUS Group LP, where he oversees the genetics and reproductive biology research for the largest producer of bovine genetics in the world. He was previously a Research Geneticist (Animals) for the U.S. Department of Agriculture's in-house research arm, the Agricultural Research Service, for 17 years. During his tenure at USDA, he was part of the team that developed genomic selection for U.S. dairy cattle, and his research interests include calving and functional traits and genetic diseases.

Aim and target audience. The aim of the panel discussion is to consider animal breeding education today and in the future, and to identify strengths and challenges in the training process to meet the needs of various industry sectors. It is envisioned that the session will especially attract graduate, post-doctoral and early career scientists. In addition, it is hoped that more experienced scientists will join the discussion to offer their own expertise and experience to the dialog.

Discussion

Although it is imagined that the conversation between the moderator, panel members and attendees will be free flowing, several potential topics for discussion are:

- Incorporating experiential learning, including industry internships, in instruction.
- Including greater focus on globalisation in the content of the animal genetics and genomics curriculum.
- Recruiting diverse and dispersed students (different cultural backgrounds and geographies) into the discipline.
- Integrating industry experts into instruction in animal breeding and genetics.
- Incorporating innovations in pedagogy into the animal breeding and genetics classroom.
- Overcoming the fear of the quantitative aspects of animal breeding and genetics among students.
- Finding the right balance in education between the foundations and current technologies affecting animal genetics and genomics.

The success of the session depends on active engagement among the panel members and attendees. The participation of graduate, post-doctoral, and early career scientists in the discussion will be particularly encouraged.