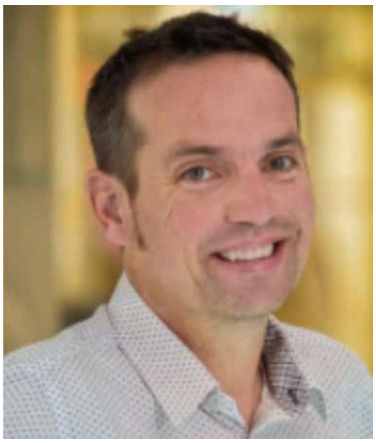
Ben Hayes



Professor Ben Hayes is currently Centre Director, Animal Sciences, Queensland Alliance for Agriculture and Food Innovation (QAAFI), University of Queensland. Inspired by his grand-parents cattle property near Warwick, Ben did Animal Science at University of Queensland graduating in 1994. He did his honours project at CSIRO Rockhampton and published the results in a AAABG conference. Ben was then awarded a Beef CRC scholarship to do his PhD at University of Central Queensland under the supervision of Ross Shepherd and Scott Newman. His thesis was entitled "Mate selection for multi-breed beef cattle populations". During his PhD, he and Matt Kelly rented John Vercoe's house near Emu Park. During his PhD he spent time at Guelph with Steve Miller and at UNE Armidale.

After his PhD, Ben went to Melbourne to work with Mike Goddard at the Victorian DPI on a project looking at the use of genetic markers in pigs. During this time he was co-author on the ground-breaking genomic selection paper that has now revolutionised animal and plant breeding globally (Meuwissen THE, Hayes BJ, Goddard ME (2001) Prediction of total genetic value using genome-wide dense marker maps. *Genetics* **1**57, 1819–1829). Then Ben was off to Norway to work on Salmon breeding at Norfina. But the dark of November in Norway took its toll and he returned to Victorian DPI as team leader of the genetics group. Here he expanded from livestock to plant breeding before returning to Queensland to his current position at QAAFI in 2016.

Professor Hayes has made many important contributions to animal breeding. He has helped Australian livestock and plant industries implement breeding programs which have increased their rate of genetic gain. Genomic selection is now widely used in animal and plant breeding. Ben led the Dairy Futures CRC genetics program which implemented genomic selection in the Australian dairy industry including introducing new traits such feed conversion efficiency. The value of the program has been recognised by a Cooperative Research Centres Association (CRCA) Award for Excellence in Innovation. Ben has also run courses on genomic selection around Australia and the world, which introduced many students and scientists to genomic selection.

Ben started the 1000 bull genomes project, a consortium of over 30 institutes across the globe, which has assembled whole genome sequences of 6191 cattle of over 200 breeds and which now provides the reference set of cattle genome sequences used throughout the world. It is hard to remember how outrageous it seemed at the time to talk about sequencing the genome of 1000 cattle when it had taken a huge effort to sequence one cow. While at QAAFI he has worked to develop genomic selection for the northern beef industry, particularly genomic EBVs for fertility that can be used in any breed. Ben is also helping the Bill and Melinda Gates Foundation with a project on dairy cattle in India and has projects on meta-genomics of rumen microbes and the breeding of wheat, barley and horticulture.

Ben is the author of more than 250 journal papers, including in *Nature Genetics, Nature Reviews Genetics*, and *Science*. He was a Thomson Reuters highly cited researcher in 2015, 2016, 2017 and 2018 and has a h-index of 85.

For his outstanding contributions to the science of genetics and animal improvement, the Association for the Advancement of Animal Breeding and Genetics is pleased to elect Ben Hayes as a fellow of the Association.