

Next Generation Dairying for Scotland

The Hannah Dairy Research Foundation is a Scottish Charitable Body that supports and funds research into all aspects of dairying, “from grass to glass”. This November they held their first International Workshop at the Moredun Research Institute in Edinburgh. One hundred invited delegates from all sectors of dairying research and the dairy industries, and from as far afield as Canada and New Zealand, took part in lively and stimulating debate on the topic of Next Generation Dairying *for Scotland*. Plenary speakers Geoff Simm (University of Edinburgh), Nigel Scollan (Queens University Belfast) and David Barrett (University of Bristol) started the Workshop by describing the challenges of achieving global food security, ensuring environmental sustainability (this with a focus on water scarcity) and maintaining the health of dairy animals whilst reducing the use of antimicrobials. Turning to potential next-generation solutions, Richard Dewhurst (SRUC) and Ian Givens (University of Reading) summarized the potential use of cutting-edge technologies in smart dairy production and the enormous nutritional benefits of dairy products to the health of consumers; important news at a time when some still regard dairy as unhealthy. Then it was the turn of the audience led by a panel of industry representatives to debate future funding issues and requirements, first in open forum and then in focused break-out groups considering funding needs; skills, resources and specific research topics. During the course of the Workshop it became apparent that as global demands for animal-derived foods increase, dairy products are an excellent option in terms of land use and consumer nutrition, but if dairying is to be done responsibly then it must be with proper regard for water availability, an area that has received too little research attention in the past. Furthermore, we have the knowledge that would enable the UK to set the best possible example in terms of reduced antimicrobial use, and in Scotland we are producing some of the best new sensor-based technologies for assisting dairy animal husbandry and ensuring the best possible health and wellbeing of our animals. For the consumer, early life consumption of dairy products will help to avoid population-level Vitamin D and iodine deficiencies and ensure optimal skeletal development and, for girls especially, the best chance of avoiding osteoporosis in later life. Proper analysis of all the evidence has shown that obesity and cardiometabolic diseases of middle age are not associated with consumption of dairy products, and by reducing the insulin response specific bioactive factors in dairy products may actually benefit diabetes sufferers. So, where to next? The Foundation has already made a considerable contribution to dairy research in Scotland, and the Workshop provided an opportunity for the Chair, farmer John Ross from Portpatrick, firstly to award a Diploma to the first Hannah-funded PhD Graduate, Holly Ferguson from SRUC, and secondly to announce the winner of the first Hannah Small Research Grant Award, Katie Denholm (University of Glasgow). The Workshop provided much food for thought regarding future funding priorities, including the need to get closer to dairy farmers, to the dairy industries (particularly the processing sector) and to consumers. Future research should be more multidisciplinary, and include socioeconomic aspects as well as basic biological and technological sciences. In his after-dinner address, Gary Mitchell, dairy farmer and Vice-Chair of NFU Scotland, emphasized the changing nature of dairy farming and the need to ensure that the next generation of husbandry staff is properly equipped with a range of technological skills. To achieve this, researchers and farmers must become more closely engaged, he said. The prospects for dairying are exciting, and it is fitting that the Workshop should end with a final Plenary talk from Mansel Griffiths, a dairy microbiologist at the former Hannah Research Institute in Ayr and latterly at the University of Guelph, on the futuristic topic of the development and commercialization of dairy post-biotics; foods containing metabolic products derived from probiotic microorganisms that have health-promoting biologic activity for the consumer.