

ScotEID UHF Livestock Technical Conference, Dingwall Mart, Scotland

The conference began at Auchmore Farm, Muir of Ord, kindly hosted by farmer Steven Mackenzie, with a live demonstration of working UHF including cattle feed monitoring, sheep identification, and



with use of hand held readers and static readers in the cattle court. Delegates were able to see the practical application of UHF and if the numbers of photos and videos were anything to go by attendees found this opportunity and practical approach both informative and illuminating.



The second day of the conference provided the theory behind the practice as a jam packed day of speakers presenting from within the Dingwall market ring kicked off with **Dr Nick Ambrose from the Scottish Government**. Nick spoke of the importance of traceability in the livestock industry to the Scottish Government and expressed his thanks to ScotEID for providing the opportunity for everyone to take on board and analyse the evidence on UHF that would be demonstrated throughout the day. He also discussed the value of reducing bureaucratic burden on farmers and increasing consumer confidence which proved to be a theme that ran through many of the presentations.



“an excellent opportunity to learn more”

Bob Yuill, the manager of ScotEID extended a particular welcome to the delegates who had travelled farthest. The global attendee list which made it such an international conference was very impressive including delegates from USA, Korea, New Zealand, Brazil, Denmark and Australia present to name a few. Bob talked about the ScotEID database and live data connections to all the livestock markets and abattoirs in Scotland providing real time traceability for sheep and pigs. The next objective is to deliver real time traceability for cattle within a multi-species database. The industry ownership principle which sits at the heart of ScotEID was discussed.



“a most international conference”

Mark Rance who is ICT manager at ANZCO and Chairman of New Zealand **RFID Pathfinder Group** demonstrated how UHF can provide traceability throughout the red meat supply chain with an impressive presentation that followed deer from live movement readers to slaughter to individually tracked boxed cuts on packaging lines and thereafter meat at point of sale.



“UHF is a solution that is not a burden for farmers”



Bob Baarsch, the Chairman and CEO of Erigate Corporation, Design and Manufacture of the USDA approved eTattoo UHF tag discussed his experiences of UHF application in Brazil and the USA. His informative talk covered everything from cheek branding in Brazil, which we would regard as rather shocking in this country, to reading UHF tags through blocks of ice and the challenges of tagging water buffalo. His concluding remarks were that UHF adoption has very little to do with performance which in his experience is excellent and far more to do with politics.

“It’s incredible that chips the size of flecks of pepper can carry so much information”

The ScotEID technical team demonstrated several lots of UHF tagged cattle moving through the weighbridge, ring and exit from the ring – each beast being read within three separate but closely adjoining locations. This impressive display resulted in even more video than was taken at Auchmore Farm and showed how the UHF system was able to provide read rates of 100% for the animals moving through a market at the speed of commerce. A few reads were missed on exit from the ring, it was later discovered that the radio microphone was operating on the same frequency with the receiver located next to the UHF antenna causing some interference.



“I came to the conference because of the impressive delegate list”



Mark Powell, the CEO of Electronic Identification Technologies Ltd, Auckland, New Zealand took up proceedings after lunch and presented a detailed and fascinating paper discussing the issues around whether UHF is fit for purpose as an ear tag application for the livestock industry. His conclusion was firmly in favour with the caveat that it must not be a one size fits all approach stating “I am convinced that UHF RFID in Livestock will only be successfully introduced if we, as an RFID community interested in this technology being used in Livestock, can prove that it is indeed Fit for Purpose. Comparisons are always going to be made between the technology that is being proposed and that which is currently in place. The comparative critique will always include the suitability of the new over the old. As a community we must ‘walk the walk and talk the talk”. The UHF RFID tag manufacturers, the UHF Reader manufacturers must show the world that their offerings are Fit for Purpose for the positive identification of livestock, and subsequent processes.”

“food integrity is paramount and UHF could help supply this”

Dr Niels Peter Baadsgaard who is chief researcher at the **Pig Research Centre for the Danish Agriculture and Food Council** discussed the innovative work they are doing for UHF application to provide pig identification. He concluded that the technology works and that the production management information held does not need to just be about animals, it can also include personnel, GPS and antibiotic data which would be advantageous to any keeper. His final comment was a warning against using cheap readers and tags, his extensive experience had clearly taught him it isn't worth it.



“It's a great place to connect with the industry and make contacts – Scotland is leading the way”



Shahzad Bhatti from the **Department of Electronic and Electrical Engineering, University of Strathclyde, Glasgow** gave an instructive overview of the work they have been carrying out for the Scottish Government on UHF. The study examined the issues associated with the adoption of UHF transponders within the beef and dairy supply chain, primarily as a means of replacing cattle passports. It is established that there are a wide variety of UHF RFID transponders that have technical capability to perform the functions of animal tracking and the dual purpose of an animal passport. These tags are manufactured to global specific standards and consequently there is little to choose between them in terms of technical specification.

“There should be an informed and robust debate about UHF within the cattle industry and NFUS”

Dr Christina Umstatter, **SRUC (Scotland's Rural College), Hill and Mountain Research Centre** presented the findings from a recent farmers feedback study on UHF for the Scottish Government. The conclusions were interesting and showed that the majority of farmers are in support of UHF technology but that more explanation and demonstrations are needed for the industry to fully understand the application and how it would work.



“UHF tags would clearly add value”



Helmut Ruppert from **Agrident GmbH** discussed combination UHF/LF reader technology and had a number of interesting conclusions, see link to presentation. He has successfully gained extensive funding for ROSEI (Robust Sheep Electronic Identification) an EU research project into LF and UHF dual band solutions for sheep identification.

“UHF is an exciting proposition”

Hamish Stuart from ScotEID closed the day of impressive and innovative speakers with a thought provoking summary of the findings ScotEID has discovered from its work on UHF so far with an expose of commonly held UHF myths. In conclusion UHF:

- Can be successfully read at distances from short range up to seven metres by modulating the output from the antenna.
- Separate adjoining read areas can be set up without cross interference.
- It works perfectly well in wet and damp conditions
- The memory allows ID's and other information to be stored in 'true' WYSIWYG.
- The EPC & TID memory areas can be used for the ID and other passport information and securely locked, leaving the user memory for read/write management information.
- The technology can be used for sheep tags.
- Individual tags can be written to in the presence of other tags.
- The technology is rapidly developing with £100's of millions being invested each year.



Hamish concluded with a sincere thanks to everyone for engaging in the conversation around UHF by coming to the conference.

“quotations are from delegates who attended the conference”

Reporter - Emma Patterson Taylor