

## Understanding well-being to reconnect humans and food-producing animals



### Gaining a deeper understanding of what animal well-being is and how it can be implemented at farm level is essential for reconnecting humans and food-producing animals.

This was the key message at the 13th edition of the Boehringer Ingelheim Expert Forum on Farm Animal Well-Being, which saw more than 80 delegates from 17 countries gather in the historic city of Edinburgh, after the COVID-19 pandemic delayed proceedings for two years.

Since 2008, the annual Forum has brought together veterinarians, producers, scientists and industry advocates from across the globe to tackle some of the biggest, most challenging topics in farm animal well-being and to look at how the most recent research may help shape positive change going forward.

This year, the event focused on how to reconnect humans with food producing animals, from either a consumer's, a farmer's, a veterinarian's or even a cow's point of view. This to ensure that high standards of animal well-being lie at the heart of this.

#### Defining welfare

Professor Emma Roe from the University of Southampton explained that how animal welfare is defined, advocated, assessed and implemented varies greatly between farmers, veterinarians, supermarkets and consumers, which in turn can shape different decision making by these parties.

Professor Roe looked at how animal welfare is assembled through the food supply chain – as opposed to how it may be practiced on farm – including labelling and assurance schemes. "Farm animal welfare is inextricably linked to the workings of our agro-food network – it cannot stand separate from it.

"The wider world learns about what is happening on farm through the lanes of the agro-food network, which offers a partial and situated perspective that may cultivate animal welfare imaginaries that are some distance from being close to the farming realities."

#### Human-animal interactions

At farm level, stockpeople are likely to be the most influential party on farm animal welfare, and Dr Elena de Torres from the Animal University of the Republic of Uruguay considered how stock people attitudes and behaviours can positively impact the welfare of cattle.

A number of factors can affect these interactions such as the design of housing and milking parlour, breed of the cow and the herd health status and even the individual stockperson themselves. "Stockperson attitudes are related to their past experiences, cultures, knowledge, personality and motivation, which all affect human-animal relations."

Dr Maria Camila Ceballos, from the University of Calgary, explored human-animal interactions further, looking at the effects and challenges as well as the progress that has been made to improve these interactions to promote better animal welfare.

Dr Ceballos has carried out research which looked at the stress response and reproductive performance of heifers subjected to different human-animal interactions. "When we handle animals in a negative way, that directly influences their behaviour and they become more fearful. This makes

handling stressful for the stockperson and the animal and it becomes a cycle of negative behaviour which has to be cut."

#### The cow's perspective

Turning focus away from the people, Dr Jennifer Van Os, from the University of Wisconsin-Madison, USA, looked at animal welfare from the perspective of the animal itself, asking: what do cows prefer?

Dr Van Os' applied research has considered different methodologies and approaches to enable cows to make choices about what they do day-to-day – and how motivated they are to do certain things. This is in a bid to better understand what factors and activities are preferable and how farmers can use this information to adapt management practices to promote increased well-being. "Giving cows an opportunity to express what they prefer and what is important to them means we gain an insight into their needs and can translate that into what practices on farm should be, and also work with organisations to influence policy and standards."

Cow preferences was also something examined by Dr David Beggs from the University of Melbourne, Australia, whose talk started by asking the question: Do cows think grass tastes nice?

Despite what seemed like quite a novel question, peeling back the layers Dr Beggs explained how evidence-based animal welfare science can be fundamental in promoting positive welfare – where cows might feel happiness or contentment, for example – rather than just focusing on minimising the risk and impact of negative welfare factors which could cause an emotive response, like fear. "There are animal welfare challenges associated with dairying that we need to take seriously because we need to maintain our social licence to farm and have a successful dairy industry.

"It is important to think about what cows like and what they don't like. The reason we worry about animal welfare in the first place is because we want the animals to be happy."

This is also an area of research and interest for Professor Cathy Dwyer, from the SRUC based in Edinburgh, who highlighted the ways in which positive welfare can be assessed on farm, and what the science is to support this. According to the literature, Professor Dwyer explained that positive animal welfare can be identified by four main features. "This includes the ability of animals to experience positive emotions, positive affective engagement, quality of life, and happiness."

#### Role of technology

While it does not replace good stockmanship, novel new technologies could help farmers and stockpersons better understand exactly how animals in their care may be feeling.

Christopher Knight, consultant at BreatheScience, led the conversation, giving delegates an insight into Computing Assisted Livestock Management (CALM) and the role this might play in cattle well-being. CALM is an approach which aims to transform the use of technology from well-established oestrus detection tools to a full

management support system for farmers. "We have the ability to technologically reconnect humans with food producing animals."

Professor Marie Haskell, also from the SRUC, then explained the potential in face detection technology which could enable farmers and veterinarians to 'see' pain in cattle via certain facial characteristics, including tension in the muzzle. "Studies have shown that it is possible that computer vision can be used to identify emotions in animals. The approach is still in development and being trialled on pigs particularly, but it is likely to be used with other species, including cattle. But to work in the long-term, we need collaboration between animal and computer scientists."

From the Autonomous University of Barcelona, Professor Xavier Manteca brought two days of enthralling discussions to a close as he highlighted the state of play for sensor technology for cattle welfare assessment and the benefits of



Precision Livestock Farming (PLF) technology. "There is high potential in PLF, but at the moment there are very few externally validated sensors offering high performance and reliability.

"Specific areas that must be addressed include monitoring welfare in calves and also how we can observe behaviour and emotions. Consumer concerns must be considered too and how they socially perceive the use of PLF."

#### Take home messages

From the research presented, it was determined that a multitude of factors need to be considered in order to truly reconnect humans and food-producing animals, and also that it is likely that these changes need to take place over a sustained period of time to maximise the effect.

Reflecting on the conference, Dr Laurent Goby from Boehringer Ingelheim concluded: "After having to pause the Forum in light of the pandemic, we were delighted to welcome back so many experts and researchers to share the latest knowledge on how we as a collective industry can improve farm animal well-being.

"Farm animal well-being works, and global collaboration is vital to ensure this keeps improving."

For more information about this forum and past events, visit: [www.farmanimalwellbeing.com](http://www.farmanimalwellbeing.com)

