



The Associate Parliamentary Group for Animal Welfare

An all party group for members of both houses at Westminster formed to promote and further the cause of animal welfare by all means available to

Minutes of the Meeting: Focus on Large-Scale Livestock Systems

Keynote speaker: Kenn Buelow, Wisconsin dairy farmer and vet

Guest panelists: Peter Stevenson Compassion in World Farming
David Alvis, UK livestock consultant

Please note that full copies of speakers' slide presentations are available to download via the Meetings section at www.apgg-agscience.org.uk]

Political Members present: George Freeman MP, Neil Parish MP, Lord Haskins, Bill Wiggin MP, Roger Williams MP, Huw Irranca Davies MP, Sir Jim Paice MP, Alex Guyver (pp Lord Wade of Chorlton)

Associate Members present: Nick Major, BOCM Pauls, Louise Mahrera, Volac, John Allen, Kite Consulting, Martin Baker, Midland Pig Producers, Vicky Porteous, Arla Foods, Donal Murphy (NOAH), Tiffany Henning (BVA AWF), Joe Moran (RSPCA), Helene Cotton (BVA), Peter Jones (President BVA), Kirsty Henderson (PETA), Jane Morford (WSPA), Vanessa Hudson (Animals Count), Carol Lever (WSPA), Peter Laurie (Greyhound Trust), Steven McCulloch (RVC), Mark Jones HSI, Bob Daniels, Scotts, Luke Ryder, NFU, Dominic Goudie, FDF, Ed Barker, CLA, David Leaver, BIAC, Martin Collison, Steve Knight, USDA, Eugene Philhower, USDA, Barry Hackett, Nigel Whittle, Jenny Gibbons, DairyCo, Chris Warkup, Biosciences KTN, Paul Biscoe, Agri Charities Partnership, Grant Walling, JSR Genetics, Sam Beechener, ADAS, William White, NFU, Corinna Gibbs, AIC

1. Welcome & Introduction

George Freeman MP welcomed Members and stakeholders to the meeting, which provided a timely and topical opportunity to consider arguments for and against large-scale livestock production in the UK and overseas. As a joint meeting of the APPG on Science and Technology in Agriculture and the Associate Parliamentary Group for Animal Welfare, he acknowledged the need to embrace a range of perspectives – scientific, cultural, ethical and socio-economic – in reaching a better understanding of how the required 'sustainable intensification' of agriculture and food production might most effectively respond to the combined challenges of food security, climate change and sustainable development.

Kenn Buelow, US farmer and vet

Located midway between Lake Michigan and Winnebago, Kenn Buelow (KB) described the farming system and approach behind Holsum Dairies – co-winner of the US Dairy Sustainability

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Award in 2012 – which cares for around 8000 dairy cows across two sites. Each milk producing site houses some 3,600 milking cows and 400 dry cows at any one time, all housed indoors.

KB described the Holsum Dairies' perspective on sustainability, whose objective was to strike a balance between economic, environmental, social and animal welfare considerations in producing safe, high quality food.

He described in detail the Environmental Management System in place, independently accredited to ISO 14001 standards, which covered key areas such as protection of water quality, air quality, manure management and nutrient recycling.

KB explained that a range of measures was in place to protect surface and ground water quality, including 14 months slurry storage capacity, strategic use of wetlands and wet sediment basins, a storm water management plan, control of feed storage leachate and regular on-site inspections.

Strategies to safeguard air quality included anaerobic digestion of manure, scraping of free stalls three times per day and feed lanes daily, alongside a commitment to ammonia reduction research.

KB highlighted in particular the benefits of the dairy's £3.3m investment in a manure digester, capable of generating 2.1 MW of renewable electricity (2-3 times more than used by the dairy). The digester provided a valuable outlet not only for manure but also for local food waste, and the process was also effective in reducing air-borne pathogens and odour by 99.9% and 95% respectively, while providing heat to the parlour, offices and calf nursery and reducing CO₂ emissions by an estimated 45,000 tonnes/year.

KB emphasised in particular the strong role played by the dairy in the local community and economy, providing employment directly for 70 people and for many more indirectly through local businesses, as well as providing an outlet for local food waste management, and supporting 40 local farming businesses by fertilising 11,000 acres at 40% the cost of bought-in fertiliser.

Specifically in relation to animal welfare, KB explained that the dairy employed three full-time vets, maintained 24-hour observation of calving and daily evaluation of the health of each individual cow. The dairy had 2-3 trained foot trimmers on the staff, and maintained detailed vaccination, health and veterinary care records for each animal.

In addition, KB described the livestock housing and feeding systems, which were purpose-built to promote cow health, comfort and welfare, including grooved rubber walkways, cushioned stalls designed for ease of rising and lowering, 24-hour access to feed, controlled lighting, summer cooling system and access to extra water during the warmer weather.

In conclusion, he described the design and operation of the dairy – including the attention paid to cow health and welfare – as enlightened self-interest because healthy, high-performing cows were also profitable.

Peter Stevenson, Chief Policy Adviser, Compassion in World Farming

CIWF's Peter Stevenson (PS) opened his presentation by suggesting that while it was not impossible to provide high welfare standards in large-scale livestock systems, it was extremely difficult, particularly in large-scale dairying.

Focusing initially on pig production, PS insisted that pig farms should no longer be using restrictive farrowing crates, but should instead be using loose farrowing pens. He highlighted the freedom farrowing pens developed by Midland Pig Producers (MPP) as a production system with significantly reduced mortality rates and improved growth patterns. He noted that MPP had also developed a slurry flushing system allowing straw to be used with slatted floors, providing increased comfort to pigs and giving them the opportunity to forage and nest.

PS also highlighted the need for effective enrichment materials and no tail docking in pigs to allow animals to exhibit natural behaviour, emphasising that attention to high welfare standards delivered economic and production benefits by reducing stress levels and enhancing performance.

While PS considered that size of enterprise was not the key criterion, he suggested that it was harder to provide good welfare in mega-farms because there were simply too many animals to treat as individual sentient beings. Referring to the five freedoms, while first-rate management systems could prevent the worst of welfare problems such as ill-health, pain, fear, distress, hunger and thirst, he questioned whether large-scale units allowed animals to express innate or natural behaviour if they were permanently housed indoors.

He also suggested that large-scale units presented increased disease and health risks by concentrating too many animals in one place, leading to greater antibiotic use and build-up of antibiotic resistance.

Specifically in relation to large-scale dairying, PS noted that such production systems typically used very high-yielding dairy cows producing 9,000 - 11,000 litres of milk per year. According to EFSA, selection for high milk yield was a major factor causing health and welfare problems in dairy cows. In addition, cows kept under zero-grazing systems did not have access to pasture during the grass-growing season, when grazing was a core aspect of dairy cow behaviour. The impracticality of providing access to grazing for dairy herds in the thousands was a major barrier to good welfare in large-scale dairies, according to PS.

PS cited DairyCo research conducted in 2012 which highlighted the importance of production costs, rather than milk yield, as the key determinant of profit, suggesting that grass-based dairy systems could be as, or more, profitable than intensive indoor systems.

He also noted US-based research from Pennsylvania in 2011 which highlighted environmental benefits of year-round grazing compared to indoor systems in terms of greenhouse gas and ammonia emissions, while fields previously used for production of feed crops showed a big increase in carbon sequestration levels when converted to perennial grassland.

Finally, in relation to the anaerobic digestion (AD) plants which were often associated with the environmental benefits of large-scale dairying, PS argued that the economics of AD were driving operators to use more or only crops (eg maize) as fuel rather than animal waste.

Linked to indoor livestock systems' 100% dependence on feeding human-edible crops to animals – PS suggested that this raised serious questions about the sustainability of large-scale livestock production given the challenge of feeding 9 billion people by 2050.

David Alvis, UK livestock consultant

As a Nuffield Scholar who had conducted a study tour of 30 dairy farming businesses in the US ranging in size from 600 to 32,000 cows, David Alvis (DA) agreed that good welfare was a prerequisite for efficient, profitable dairy production, but considered that welfare should be assessed in terms of outputs rather than inputs.

DA challenged PS' description of what constituted natural behaviour for cows, contending that humans had changed cattle fundamentally through breeding and domestication over 8000 years, and that it was unrealistic to expect cows to behave or be treated like their wild ancestors. By analogy, most people would be horrified at the idea of pet dogs running wild to hunt their dinner.

DA also questioned the notion that high-yielding dairy cows were more susceptible to disease and poor health, indicating that selection for yield alone had ceased and that modern livestock breeders were more focused on resilient performance and high-welfare outcomes.

Highlighting the need to measure the environmental and resource use impacts of dairy farming per unit of output rather than in terms of inputs, DA referenced a Cornell University study which demonstrated that the carbon footprint of milk production today is one third per litre of what it was 60 years ago.

DA also warned that more variable weather patterns meant that dairy businesses dependent on the availability of pasture had seen performance seriously constrained, particularly over the past year.

The key to productive, high-welfare dairying was not down to a specific production system, but the quality of management and establishing the right balance from available resources, he concluded.

2. Questions and discussion

The following key points arose during discussion:

In response to Lord Haskins, KB explained that his dairy cow replacement rate ranged from 37 to 50%. This replacement strategy was mainly related to the returns received from selling cull cows for beef than to any fall-off in milk production. The attention to detail in terms of calving and cow health meant that a constant supply of high-quality replacements was readily available. KB added

that good beef prices were received because the cows were able to exercise, walk around and play with each other, allowing build-up of muscle mass.

KB also explained that his sole objective was to describe how his farming system operated, not to be prescriptive in telling others how to do it. As with any farming enterprise, practices could be good or bad irrespective of size.

Discussion centred on the definition of animal welfare, what was meant by the ability to express normal, innate behaviour, and whether access to pasture was an essential component of good welfare. The RSPCA position, for example, considered that cows should have access to pasture, while the 2009 EFSA study referred to by PS concluded that access to pasture in itself was no guarantee of good welfare, and similarly that permanent housing was no barrier to high welfare conditions.

Livestock consultant John Allen suggested that it was naive to contemplate the UK switching to a New Zealand-type grassland system – with 3 million people and 3 million cows the vast majority of NZ production was exported as butter or milk powder, while the UK's 60 million inhabitants consumed the output of 1.7 million dairy cows on a daily basis. It was not possible to produce milk all-year round on a grass-based system.

KB challenged the suggestion that the diet of permanently housed dairy cows was 100% based on human-edible crops. In fact just 10-15% of his dairy rations were based on corn, the rest comprised of forage and by-products.

In response to Peter Jones of the British Veterinary Association, KB confirmed that BST was routinely used in around 30% of his herd. Acknowledging the welfare debate around the use of BST as a milk-boosting hormone, KB suggested that such concerns were simply not an issue within his production system.

Martin Barker of Midland Pig Producers emphasised that high standards of animal welfare, environmental protection and human health were fundamental to profitable, efficient livestock production, irrespective of scale, while Grant Walling of JSR suggested that disease risk was actually greater when animals were kept outdoors.

DA noted that the devastating economic and welfare impacts caused by bovine TB were the result of animals being kept outside, adding that studies of the behaviour repertoire of animals kept outside compared with a well-designed indoor system were broadly similar in terms of time spent eating, standing, moving around, lying down etc.

Concluding the meeting, Neil Parish MP thanked speakers and attendees for their contribution to a lively and thought-provoking discussion. He suggested that the key factor in delivering high standards of animal welfare was quality of management, and that those involved in the debate over large scale livestock systems should accept that size of enterprise in itself was no guarantee of good welfare.

