how to engage with farmers and facilitate improvements in farm animal welfare, including: participatory learning; social marketing; benchmarking; open and demonstration farms; and continuing professional development.

Education, Communication and Knowledge Application in Relation to Farm Animal Welfare (December 2011). A4, 36 pages. Farm Animal Welfare Committee. Available for download from the FAWC website: www.defra.gov.uk/fawc or by contacting the FAWC at the following address: Area 8B, 9 Millbank, c/o Nobel House, 17 Smith Square, London SWIP 3JR, UK.

Economics and Farm Animal Welfare

Economics is a complex discipline which is, in essence, about how best to assign resources to satisfy human wants. The report begins by explaining how animal welfare does not fit directly into an economic framework but is considered to be an 'externality'. Within economics, animals may be considered a resource which, following production (eg farming), result in an output that people want (eg food). However, along with producing the desired output, the production process may also result in a by-product(s), eg quality of life for farm animals. If the quality of life of farm animals were poor then this would be considered a negative externality due to the negative impact that this would have on people in society who are concerned about animal welfare. Conversely, if the quality of life of farm animals is high, then animal welfare may also be considered to be a positive externality. Negative externalities are unwanted by-products which may raise concerns in consumers thereby affecting the market success of a product. Environmental pollution is given as an example of a negative externality of industrial production.

The report then considers the role that farmers and their decision-making has on animal welfare. FAWC notes that most farmers are not simply profit maximisers and that a whole range of drivers are involved in any decision-making process, including a concern for animal welfare. FAWC recommends that "Research should be carried out to provide a better understanding of the financial and other drivers for farmers to safeguard and improve animal welfare" and also that "It is likely that the most effective means to protect and improve farm animal welfare that is linked to farm profitability is to provide some form of incentive payments to farmers to do this; these should be paid according to the delivery of welfare outcomes".

The relationship between animal welfare and animal productivity is then explored. Some improvements in animal welfare will also result in an improvement in productivity, and thus profitability for the farm. However, this is not always the case and FAWC considers that where measures to improve animal welfare impose a net cost on the farmer, then other forms of incentive may be required to promote their adoption. This leads onto the next section which considers the relationship between animal welfare and economics in the marketing chain. A number of studies have indicated that some consumers are willing to pay a higher price premium for products from farming systems which deliver higher animal welfare (although this is not

always found to be the case at the point of purchase). The role of retailers, the media and the imbalance of power between primary producers and retailers is also discussed.

FAWC goes on to describe how animal welfare could be classed as a 'public good'. Public goods are those which have a positive benefit on society as a whole, or a subset of it. They often do not have their own inherent market value therefore it is not cost effective for a market to allocate resources to them; other means of ensuring public goods are valued are therefore utilised, such as government intervention. If animal welfare were considered to be a public good then government could seek to protect animal welfare through regulation, financial incentives, and provision of appropriate information. As part of its recommendations in this area, FAWC urges government, "to continue to assess the need for new legislation, rather than relying on market mechanisms to satisfy its objective of improved standards of farm animal welfare".

The impact of globalisation on animal welfare is also taken into consideration within the report. FAWC notes that decisions taken within one country cannot be wholly independent of those taken in others due to international trade and other trans-national issues, such as disease control, disaster management and climate change. In particular, when legislation is updated, this can have major cost implications for farmers, especially changes which involve alterations to animal housing. FAWC stresses that increased regulations should not put farms and other business in Great Britain out of business since this is likely to lead to an increase in imports and an export of any welfare problem. Other countries do not necessarily have lower animal welfare standards than the UK, but where this is the case, imports from these countries cannot be prevented from entering the UK on animal welfare grounds due to World Trade Organisation (WTO) rules. FAWC discusses the complexities of this situation and also talks about global animal welfare standards of intergovernmental organisations, such World Organisation for Animal Health (OIE), and the possibilities of EU-wide welfare labelling.

The final parts of the report reflect on where financial pressures have brought the livestock industry and then close with how economic mechanisms may be utilised to improve animal welfare in the future. One idea put forward is to use the current Government Environmental Stewardship Scheme as a template for a 'Welfare Stewardship Scheme' — which would provide farmers with a financial incentive when measurable improvements in welfare outcomes are achieved.

Economics and Farm Animal Welfare (December 2011). A4, 49 pages. Farm Animal Welfare Committee. Available for download from the FAWC website: www.defra.gov.uk/fawc or by contacting the FAWC at the following address: Area 8B, 9 Millbank, c/o Nobel House, 17 Smith Square, London SWIP 3JR, UK.

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