INTEGRATION OF ANIMAL WELFARE IN THE FOOD QUALITY CHAIN: FROM PUBLIC CONCERN TO IMPROVED WELFARE AND TRANSPARENT QUALITY

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Introduction

Animal welfare is of increasing significance for European citizens who now expect their food to be produced with greater respect for the welfare of farm animals. Indeed, their perception of food quality is determined not only by the nature of the product but also by the welfare status of the animals from which it was produced. Since the consumer is the end-user his or her demands form the bottom-line for any fine-tuning required for the societal and economic sustainability of agri- and food-chains. The fact that improving animal welfare can positively affect disease resistance and product quality also directly influences food quality and safety.

Transparency of the product quality chain requires reliable on-farm monitoring of welfare status and the standardised conversion of welfare measures into accessible and understandable information, thereby addressing consumer and stakeholder concerns and allowing clear marketing and profiling of products.

Within WELFARE QUALITY, leading European groups are integrated to: a) analyse and address the perceptions and concerns of consumers, retailers and producers about animal welfare, b) develop pan-European standards for on-farm welfare assessment and product information systems, and c) identify practical strategies for improving animal welfare.

The implementation of the welfare monitoring and product information systems and the welfare improvement strategies identified here will support the development of husbandry systems and genotypes offering different facets of animal welfare, thus contributing to the diversification and societal sustainability of farm animal production in Europe.

In the past, our systems of agricultural production focused mainly on issues such as supply, price and competition. Nowadays, it is recognised that consumer requirements form the bottom-line for any effort intended to achieve the ultimate fine-tuning necessary to assure societal and economic sustainability of agri- and food-chains. Thus, more and more attention

is given to emerging new consumer concerns and societal needs and animal welfare has become an issue of increasing significance (Bennett 1996; Miele & Parisi 2001).

Consumers now expect their animal-related products, especially food, to be produced and processed with greater respect for the welfare of the animals. Thus, their perception of food quality is determined not only by the overall nature of the end product but also by the welfare status of the animals from which the food was produced (Harper & Henson 2000; 2001). Furthermore, it is acknowledged that improving an animal's welfare can positively affect numerous aspects of product quality (e.g. reducing the occurrence of tough or watery meat as well as the incidence of bruising, bone breakage, blood spots and abnormal eggshells), pathology (alleviating fear reduces the potential development of pathological anxiety) and disease resistance (decreasing the immunosuppressive effect of chronic stress and the need for antibiotics); these effects have direct relevance to food quality and safety (Hughes & Curtis 1997; Jones 2001; Faure et al. 2003).

To develop effective strategies for communicating welfare standards to the public and to accommodate consumer concerns, it is essential to have a more detailed knowledge about the worries consumers have about animal production. Relevant and appealing information to consumers is of paramount importance to give consumers an informed choice and to generate an intensified dialogue with all factions of society on welfare issues and the associated effects. Clearly, it is also essential to analyse the marketing requirements of retailers as well as producers' aspirations and the obstacles they face.

In order to accommodate societal concerns about the welfare quality of animal food products as well as related market demands, e.g. welfare as a constituent aspect of product image, there is a pressing need to develop reliable on-farm monitoring systems for assessing the animals' welfare status, identifying and evaluating potential risks, and developing and validating practicable strategies to improve farm animal welfare from farm to slaughter (c.f. Blokhuis et al. 2003).

The Welfare Quality project

In the EU's sixth Framework Programme for research, technological development and demonstration, the priority area 'food quality and safety' specifically addresses the 'from fork to farm' approach to food quality chains. Research in this area should aim to ensure European citizens the food quality and safety they require and to analyse their concerns and to provide them in a transparent way with the information they need to make a reasoned judgement.

Welfare Quality is funded by the European Commission under the sixth Framework Programme. In the Welfare Quality project the growing societal need of consumers and citizens for a high welfare quality and increased transparency of production is addressed. The project aims to integrate animal welfare in the food quality chain. The research program is designed to develop European standards for on-farm welfare assessment and product information systems as well as practical strategies for improving animal welfare. The standards for on-farm welfare assessment and information systems will be based upon consumer demands, the marketing requirements of retailers and stringent scientific validation.

Welfare Quality builds on European strengths in the broad field of animal welfare and integrates and interrelates the most appropriate specialist expertise in Europe in order to develop, refine, standardise and intercalibrate welfare measures and to identify and validate practical remedial measures. Thirty-nine institutes and universities (representing thirteen European countries) with specialist expertise participate in this integrated research project. The project started in May 2004 and will take five years to complete.

Addressing consumer concerns

Our development of a European-wide food product welfare information standard with several grades or levels aims to offer guarantees about welfare issues and production conditions. This will allow consumers (and retailers) to purchase products of known standard. Consumer confidence in the information system will enhance marketing opportunities for high-quality, high-value animal products.

Transparency of the product quality chain in relation to animal welfare is based on the visibility of production processes to all stakeholders (public, industry, government etc.) and an understanding of how these affect welfare. The key is to connect animal husbandry practices to informed animal product consumption. Therefore, the Welfare Quality project will promote science-society dialogue to enhance fast and effective knowledge flow, through increased discussion, educational initiatives, meetings with the media, and the creation of platforms involving members of the public, industry, government and academia.

Another major thrust of this project is to improve the welfare status of farm animals in Europe through the development and implementation of practicable, knowledge based, species-specific remedial strategies.

EU policy and trade

The Protocol on Animal Welfare annexed to the EC Treaty in 1999 obliges the European Institutions to fully consider animal welfare in the drafting and implementation of Community legislation. Adoption of the Protocol implies the concept of an "animal welfare impact assessment". In other words, formulation of new Community policies must include consideration of animal welfare.

The reform of the common agricultural policies (CAP) foreseen by Agenda 2000 follows the trend of more market-oriented measures decoupling subsidies from production. "Europe's citizens no longer want systems which encourage more production of food to the exclusion of other priorities" (European Commission 2002). Instead, farming is seen as fundamental to other key societal goals such as food safety and quality, animal welfare, rural development, sustainability etc.

The welfare assessment systems developed in the present project will be used to identify strengths and weaknesses in animal husbandry systems and/or particular genotypes, to guide and monitor future remedial developments (e.g. new husbandry systems or breeding programmes that enable production of high quality, high welfare status food products), and to inform legislative initiatives.

In summary, to facilitate intra European trade and marketing it is imperative that we establish a European standard for welfare assessment systems as well as a European animal welfare information standard. Only then can we harmonise information that is informative and relevant to all European consumers.

Welfare monitoring

In order to achieve the harmonisation described above, reliable and practicable on-farm welfare monitoring systems that will enable us to assess the current welfare status of the animals and evaluate potential risks to their welfare are required. These systems should provide a standard way of converting welfare-related measures into information that is conveyable to and easily understood by the consumer, thereby addressing their concerns and allowing for the clear marketing and profiling of the product.

One of the main thrusts of the Welfare Quality project is to develop sets of measures that are based on assessing the actual welfare state of the animals in terms of their behaviour, health, physiology, performance and disease-resistance using existing and innovative methods. Such animal-based measures include the effects of variations in the way the farming system is managed as well as specific system-animal interactions. A set of design measures will also be

proposed so that causes of poor welfare can be identified on farms and remedial measures proposed. Both the design measures and the animal-based ones should be founded on sound scientific analyses and integrated into a standardised methodology for assessing welfare on an objective, scientific basis (c.f. Blokhuis et al., 2003).

Welfare improvement strategies

Developing and validating practical ways of improving the welfare status of farm animals form another important thrust of this project. Many animals (particularly poultry and pigs) are kept under low levels of sensory input in modern farming systems; this is likely to engender boredom, depression, fear, pathological anxiety and the development of behavioural vices (Mench 1994, Zulkifli & Siegel 1995; Jones 2001). Furthermore, farming practice has often changed too rapidly and frequently for the animals' biology and behaviour to evolve appropriately and at the same pace (Faure et al., 2003). Of course, changes to housing and husbandry systems or to breeding programmes must be practicable and affordable. Within these constraints, innovative, knowledge-based, species-specific strategies for improving on-farm animal welfare will be defined. Since welfare is determined by internal as well as external variables both genetic and environmental solutions to welfare problems will be sought. Indeed, it is increasingly recognised that selective breeding is a powerful tool for alleviating welfare problems (Grandin, 1998; Jones & Hocking, 1999; Faure et al., 2003) and that appropriate environmental enrichment, including positive human contact, can dramatically enhance welfare (Mench 1994; Hemsworth & Coleman 1998; Jones 2001). Collectively, our efforts will be aimed at minimising the elicitation and expression of damaging behavioural and physiological traits and states, improving the human-animal relationship, and providing the animals with safe and stimulating environments.

Thus, the implementation of welfare improvement strategies and reliable monitoring systems will support the development of genotypes and of husbandry systems and practices that offer different facets of animal welfare, thus contributing to the diversification and societal sustainability of farm animal production in Europe.

In conclusion

Farm animal welfare is becoming increasingly recognised as an important attribute of food quality. The Welfare Quality project described above integrates the definition of consumer, retailer and producer attitudes with the development of reliable, standardised welfare monitoring systems, of practical welfare improvement strategies and of enhanced science-

society dialogue. By involving all the stakeholders and building on existing multidisciplinary expertise it presents an opportunity to make substantial progress in the pan-European improvement of the welfare status of farm animals and thereby in the sustainability of European agriculture.

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