WHAT PRICE CHEAP FOOD?

Is ever-cheaper food always desirable? Is it really cheaper, when all the effects of intensive production are taken into account? Or do the damaging effects of such production outweigh the advantages? Effects include damage to food security and safety, developing countries, animal welfare and the environment: in a word, to sustainability.

This paper presents the proceedings of a meeting that addressed these questions, held in the UK by the British Society of Animal Science and the Scottish Centre for Animal Welfare Sciences, in April 2002. The principal organizer was Dr Michael Appleby of The Humane Society of the United States (formerly of the University of Edinburgh, UK). Conclusions are relevant to all countries and The Humane Society of the United States unequivocally endorses the importance of addressing these issues urgently.

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Commentary: What Price Cheap Food in the USA?

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The issues addressed by the meeting, 'What Price Cheap Food?', are even more relevant to the USA than to other countries. Pressure for cheap food production and intensification of agriculture have proceeded further here than anywhere else, with more problems resulting.

Animal health and welfare

If a disease such as Foot & Mouth Disease reaches the USA it will have a devastating effect because the factors that caused the spread of FMD in the UK – such as widespread movement of animals – are even more exaggerated here. Current concerns about bio-terrorism have led to increased vigilance, but more is needed: an examination of the fundamental features of our agriculture that put us at risk.

Many problems arise from a lack of careful treatment of animals, increasing risk of disease and other reductions in animal welfare. For example: space allowances for farm animals are often less than those required by law in other countries; feeding of rendered carcasses to other animals is still allowed, despite the fact that feeding cows with material from cattle caused the spread of BSE in Europe.

Food safety

Problems of food safety are also widespread in the USA: each year *Salmonella* causes at least 40,000 cases of illness and 1000 deaths, and *E.coli* 0157 causes 73,000 infections and 60 deaths. Many of these are caused by handling and slaughter of animals that is lacking in proper control, leading to contamination of meat products – as well as to suffering for the animals and injuries to workers. Economic pressures have led to slaughter line speeds much faster in this country than elsewhere and other factors are also important, such as exclusion of poultry from the Humane Slaughter Act.

Farm incomes and food security

Closure of small farms and consolidation of agribusiness have had severe effects on rural communities in the USA and have not increased food security. Large companies can also fail – such as the egg producer Cypress that went bankrupt in Florida recently – and it would only take a few such failures to cause problems in food supply. A decent, reliable income for farmers –

including small farmers – must be part of a sustainable future for farming. This would increase food security. Furthermore, self-sufficiency in food could readily be achieved at the national level, and increased at the regional level, within the USA.

Environment

Concentration of food production and long-distance transport also cause environmental problems in this country. Probably even more important are the air and water pollution from Concentrated Animal Feeding Operations. One third of surface water pollution in the USA is from agriculture. 'External costs' of agriculture are about \$35 billion per year in the USA, mainly for environmental problems. Some of these costs are paid through farm subsidies, which are therefore an indirect tax on food and an attempt to 'cure' such problems in the short-term rather than preventing them in the long-term.

In the USA as elsewhere, there are major problems associated with agriculture, such as environmental pollution and animal suffering. The current economic structure of agriculture is making these worse. Urgent discussion is needed of how agricultural economics can take society's broader concerns into account. We need a vision for agriculture in the future that will be sustainable for our animals, our environment and ourselves.

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WHAT PRICE CHEAP FOOD?

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ABSTRACT. This paper is the report of a meeting that gathered many of the UK's most senior animal scientists with representatives of the farming industry, consumer groups, animal welfare groups, and environmentalists. There was strong consensus that the current economic structure of agriculture cannot adequately address major issues of concern to society: farm incomes, food security and safety, the needs of developing countries, animal welfare, and the environment. This economic structure is based primarily on competition between producers and between retailers, driving food prices down, combined with externalization of many costs. These issues must be addressed by a combination of legislation, restructuring of the market, and use of public funds. The meeting included workshops that made other recommendations for research and education. The most urgent requirement is recognition that change is needed and development of a vision for what that change must achieve.

KEY WORDS: agriculture, animal welfare, development, economics, environment, food, sustainability

INTRODUCTION

A meeting was held by the British Society of Animal Science and the Scottish Centre for Animal Welfare Sciences in York, UK, in April 2002. This meeting challenged the widespread assumption that cheaper food for consumers is unequivocally desirable. Speakers focused on the argument that pressure for cheap food production has been a factor in many negative developments: unreliable farm incomes, pressures on small-scale producers, reduced food security, concerns over food safety, loss of competitiveness for third-world producers, problems for animal welfare, and environmental damage. Cheap food incurs costs that are not reflected in the selling price, costs external to the agricultural economy. The meeting concentrated on food from animals, but many of the issues also apply to crop production. All the speakers were from the UK, so they tended to give a UK perspective, but it is apparent that most of the matters discussed are relevant in many countries.

Following the spoken papers, workshops then discussed four of the main issue areas and made recommendations on what should be done to address them.

OVERVIEW

The proportion of income that people in developed countries spend on food has declined for many years. The decline was initiated by public policies in favor of more abundant, cheaper food. However, in recent years it has acquired its own momentum. Continuing decline in food prices is sometimes attributed to pressure from the consumers themselves, but it would be more accurate to say that it now primarily results from competition between producers and between retailers. It is generally regarded as beneficial, and availability of cheap food is itself advantageous, if that food is nutritious and safe. However, it can also be argued that pressure for cheap food production has been a major factor in many negative developments: concerns over food quality and safety, unreliable farm incomes, pressures on small-scale producers, loss of competitiveness for third-world producers, reduced food security, problems for animal welfare and environmental damage. Cheap food incurs other costs that are not reflected in the selling price,

costs external to the agricultural economy. For example, one third of surface water pollution in the USA is from agriculture. These externalities are considerable. They are estimated to cost £2.3 billion per year in the UK (Pretty et al., 2000) and \$35 billion per year in the USA (Pretty, 2000). It has been said that we pay for our food three times: through our wallets, through our taxes, and through our health. The third of those routes – a "cost" to health resulting from food production practices, and which may further result in actual economic cost – is not as common as the others but is clearly true on occasion.

One specific example illustrates the extraordinary results of this pressure for cheap food. Production of milk involves maintenance of cows and many other complex processes with impacts on staff, the local community, and the environment. Yet in supermarkets in many countries, milk is cheaper than water.

Some people seek out more expensive foods because they consider them better in taste or nutrition, or for health, the environment, or animal welfare: examples of these are organic food and free range eggs. However, it is not enough to argue that the proportion of such food produced will thereby come to match the proportion of those willing to pay for it. Such people want all food produced in this way. So do most other people. It is inappropriate to put responsibility for protection of animals and the environment on customers at point of sale, when they have other priorities to juggle and can see others around them buying the cheaper products. Society does not burden shoppers with day-by-day responsibility for the safety of the people who produced their purchases, and neither should it do so with environmental or animal care. The only case in which this choice has been properly put to the public was in Switzerland. In 1978, the Swiss public voted in a referendum to ban battery cages, even though they were fully informed that this would put up the price of eggs. Several studies have shown that people are willing to pay more for food that is produced in responsible ways. The fact that fewer people actually seek out such food in the shops does not gainsay the validity of those surveys, in which people are responding as citizens, not just as consumers.

There is a proportion of consumers who would have genuine difficulty in paying more for food, but this is an insufficient argument for providing cheap food for everyone: such people can be supported in other ways. Most people could readily pay more for food. Some may object to doing so given the choice, but most already pay more than necessary, some by buying specialist products and more by buying convenience foods. Standard of living is not simply determined by cost of living: it is affected not just by the cost of our food, but also by our assurance that our food is good for us and that its production does not damage animals, other people or the environment.

A general conclusion is that competition should no longer be the main determinant of food prices, where these affect major issues of concern to society, notably the environment and animal welfare. Change will not be achieved quickly, but we need a vision for agriculture in the future that will be sustainable for our animals, our environment, and ourselves.

FARM INCOMES AND FOOD SUPPLIES

The crisis in UK agriculture in the past few years has seen real incomes in most sectors fall to levels below those of the recession in the 1930s. This has been caused by a combination of low world commodity prices, a strong currency, and a series of disasters such as BSE and Foot and Mouth Disease, along with a hugely increased bureaucratic burden adding to the costs of food production. Increasing globalization of food production and the power of the retail sector on the home market has led many to believe that farming in the UK is no longer sustainable with the result that a large number are leaving the industry. A dramatic restructuring is taking place resulting in a growth in the number of large farms and also an increase in part time units, while the medium-sized family farms decline.

The current system of support for agriculture in the European Union, the Common Agricultural Policy, is widely regarded as being in urgent need of reform and many question whether the taxpayer should subsidize agriculture at all. These pressures, along with the influence of the World Trade Organization, lead to the

conclusion that farmers must become closer to the market and more sensitive to the demands of the consumer.

So, what does the consumer want? Consumer attitude surveys suggest that the highest priority is food safety, followed closely by animal welfare and environmentally friendly techniques, but the reality seems to be that the highest priority, at least at point of sale, is that food should be cheap – why else should the food retailers make this the mainstay of all their advertising?

Thus the role of policy makers must be to attempt to reconcile these different factors in order to create a sustainable future for agriculture. To do this, several fundamental questions need to be answered. The first and perhaps most important is whether we need a policy at all. Is it necessary for food to be produced in a particular country, such as the UK? If so what is the minimum level to ensure the production capacity and skills are available in case imports become unavailable for some reason?

If we agree that there is a requirement for food to be produced in the UK, or in any other country under consideration, then the price that consumers will pay is surely the next factor to consider. Food expenditure as a proportion of average income has fallen from 34% in 1946 to 12% in 1999. It is unreasonable to expect consumers to pay significantly more, indeed the adverse effect on the rest of the economy if they did would not be politically acceptable, but we need to question whether it is sustainable for this proportion to fall further. However, farm gate prices have been falling at an even greater rate than the retail price. To increase income to sustainable levels, and to help pay for some of the higher standards demanded by the consumer, it is vital that ways are found for a greater part of the retail price to find its way to the primary producer.

The increasing demands for higher standards of food production are often confusing and contradictory. Average food production is probably safer than it has ever been, but consumer perceptions have been molded by awareness of BSE, salmonella, listeria, and other zoonotic threats. Hazard is usually a matter of chemical contamination or zoonoses, both of which can be measured objectively. In the case of chemical contamination, such as pesticides and veterinary medicines,

methods of detection are constantly improving, and complete absence of these contaminants may prove to be unattainable. What becomes increasingly important is the development of risk based assessments to define maximum acceptable levels. The same is true of zoonoses but with the additional need to define where in the food chain responsibility should reside. Once a consensus is arrived at, the same standards can and should be applied to imports as well as home produced food.

Animal welfare presents different problems. While there are some aspects of welfare, in particular health, that can be monitored in the final food product, many others cannot. If the public choose to have higher standards, with the additional costs that invariably apply, the market can only provide part of the recompense for these costs, and other methods need to be found to pay for these "public goods." This is even truer where higher environmental standards of production are applied.

Food in developed countries is cheaper, more varied, and safer than it has ever been. Consumers are unlikely to be willing to pay significantly more, and the pressures of globalization of trade mean that for farming to be sustainable in a country such as the UK, farmers must be able to obtain a greater share of the retail price. This may go some way towards financing the higher standards required by the public. Application of the same standards to imported goods can only be achieved where those standards are objectively measurable in food products. Where this is not possible, as in aspects of animal welfare and environmental standards, the increased costs must be paid for by some other means.

Issues raised by the workshop

The main issue discussed by participants in the workshop concerned the need to attain sustainable farm incomes. Without these any attempts to improve welfare, quality, and safety will fail.

Recommendations

 There should be greater cooperation between producers in the processing and marketing of products. This requires increased organization by producers.

- More direct marketing to consumers (e.g., niche marketing) would improve producer incomes.
- There should be a strengthening of the dialogue between the links in the producer to consumer chain. Again improved organization is required to achieve this.
- Producers should avail themselves of every opportunity to get the realities across to consumers directly. It is realized that this is easier said than done.

FOOD QUALITY AND SAFETY

Three comments can be made at the outset of a discussion on food quality and safety. First, the retail purchase price – the price that the consumer actually pays – does not necessarily reflect the levels of cost involved in production. Second, one of the objectives of the UK's Food Standards Agency is to achieve a reduction of 20% in the incidence of foodborne illness by 2006. Third, a recent study by the Consumers' Association of the UK indicated that the more expensive "premium" supermarket products did not necessarily guarantee a better tasting product when compared with the "standard" range.

These three comments all form part of the very active debate taking place about food, and combine the issues of cost, safety, and quality, but their implications for the primary producer and the consumer are unclear. We can also ask whether producer and consumer have a common or shared view, or whether there is a very different perspective from either end of the food chain.

It should be possible to take food safety for granted, and the associated costs should not be an issue. Unsafe food is not an option. However, it is necessary to understand what is meant by food safety. An association with food poisoning is the most common response, but the subject area is wider and more complex than just avoidance of food poisoning. Physical and chemical contaminants are as important as microbiological contaminants. Failure to control food safety, in any of these categories, immediately hits the headlines.

Partly due to the challenge brought about by BSE and other concerns, the UK industry has moved into the era of farm assurance and traceability, and it will progress further down this road. The issue needs to be addressed of whether this is what the consumer actually wants, and whether such mechanisms actively demonstrate food safety assurance at point of production. Furthermore, can the same be said for processed, imported products? These are all issues for discussion when considering cost in relation to food safety.

Quality also includes elements of perception. Consumer knowledge and expectations are huge variables but it is not fully understood what the average consumer understands by quality. It may relate to any or all of the following: nutritional value, taste, health aspects, method of production, preparation and presentation, ethical and social responsibility, authenticity, welfare protection, and environmentally sensitive production systems. The primary producer will quite rightly argue that some or all of these aspects cost money and someone has to pay for them. However, it is uncertain whether all the "players" in the food chain see this issue in the same way.

Issues raised by the workshop

Control of food safety and quality is complex, partly because safety is expected, but quality is seen as an extra to be paid for. There is a need to define clearly how food safety is measured: legislation is often seen as excessive and objective cost-benefit analyses are required. The workshop noted that cheaper imported products are not necessarily less safe.

Recommendations

- Apolitical methods of measuring food safety should be developed.
- Legislation of food safety should be harmonized.

DEVELOPING COUNTRIES

The tendency of shoppers to buy the cheapest food available is particularly costly to farmers in developing countries and much of our food comes from such countries. Coffee is the highest value traded foodstuff (and only surpassed in trading value by oil) and others are also important: tea, fruit juice, cocoa, and bananas. These goods are mainly produced outside Europe and many African and Asian economies are dependent on them. The value of this trade greatly outweighs that of aid. The total value of trade into the UK from developing countries in 1997 was £48 billion, with UK companies earning about £6 billion from investments, compared to UK aid of about £2 billion. Low and unpredictable prices damage these countries' economies, causing pressure to increase production and to change land usage. At the "micro" level, poor people stay poor, vulnerable people stay vulnerable, and birth rates stay high to pay the bills. It is sometimes suggested that international business must benefit the poor by "trickle down" and that any business is good business, but the reality is less encouraging. Between 1975 and 1993, raw coffee prices fell by 18% while the consumer price grew by 240%, and the World Bank estimates that \$96 billion was "underpaid" for seven basic commodities. Unsustainable trade means poverty and hard choices: the political and economic situation in Columbia in the late 1980s led to drugs becoming the new cash crop, with consequences throughout the world.

India has nearly 40% of the world's poor, with 500 million – 50% of the population – below the poverty line of 12 rupees a day. If the economy could show a growth rate of 4% per annum for the next ten years, fairly distributed, this would raise everyone above the poverty line. The bad news is that although 4% was the average growth rate in the 1990s, 150 million more people fell below the poverty line, with the income disparity between richest and poorest doubling. Furthermore, power internationally is becoming increasingly consolidated in the hands of a few: for example, 90% of physical coffee is controlled by three companies, each with a

turnover greater than most African nations. In local trade no one wants to be seen as unfair, but in international trade no one gets to see what is going on.

One attempt to address these issues is described as Fair Trade. This is a trading partnership, based on dialogue, transparency, and respect, that seeks greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalized producers and workers, especially in developing countries. Fair Trade's strategic intent is: deliberately to work with marginalized producers and workers in order to help them move from a position of vulnerability to security and economic self-sufficiency; to empower producers and workers as stakeholders in their own organizations; actively to play a wider role in the global arena to achieve greater equity in international trade.

So what is a fair price? It is the cost of sustainable production. For example one Fair Trade company, Traidcraft, pays a minimum of \$1.26 per kg for coffee, approximately the cost of production in Costa Rica. Fair prices are an important part of Fair Trade, but so are other aspects of trade such as: access to pre-export finance; skills and capacity building; quality training; market access; longevity of trading relationships. Producers in developing countries may also be disadvantaged by other factors such as the imposition of food standards by importing countries. For example, many developing countries would find it very difficult to comply with new phyto-sanitary legislation on honey, including all the requirements for certification. They ask whether these standards are really putting consumers first, or whether they are protectionism "by the back door."

Traidcraft's experience is that consumers will pay more for fairly traded food, but only if the cost of doing so is limited: it must be high quality, easily available, and branded so they recognize it, it must taste like their usual brand and the price differential must be less than 20%. The fact that consumers will pay more is good news for sustainable development but hard work for marketing.

ANIMAL WELFARE

Turning to the relationship between economics and animal welfare, there are many instances where improvement of welfare will reduce the costs incurred by farmers, for example measures to reduce disease and mortality. However, there are others where improving welfare would increase costs, for example increasing space allowances for livestock. Sometimes increased costs can be offset by increased income, by obtaining price premiums for products that are perceived to be associated with high welfare, such as free range eggs. More usually, though, reducing cost has taken priority over increasing welfare. An important point to recognize is that profits achieved by cutting costs are short-term, as they are constantly pared away by competition on prices. Yet some such cuts – including those achieved by reducing space allowances – have produced long-term reductions in welfare.

Despite the relationship between cost and welfare on farms, it turns out, surprisingly, that major improvements in farm animal welfare could be achieved with only minor increases in the price paid for food by consumers. As one illustration, the capital costs of animal production (housing and so on) typically account for about 10% of production costs. Suppose we double the space and facilities provided for the animals, increasing production costs by 10%, and introduce new disease control measures at a cost that also amounts to 10% of the original total. Cost of production has then been increased by 20%. When a consumer buys a meal in a supermarket or restaurant, the cost of animal products in that meal accounts for only about 5% of its purchase price. So increasing the cost of production by 20%, with considerable improvement in animal welfare and food safety, need only add 1% to the price of the meal. Most consumers would not even notice such a change and would support it if asked.

A real example is provided by the UK ban on stalls and tethers for pregnant sows, for welfare reasons, which took effect in January 1999. McInerney (1998) estimated that this would increase pork production costs by 5%, but retail prices (which include transport, packing, marketing, and so on) by only 1%. Householders

might buy slightly less pork than hitherto, so their expenditure on food would stay level or very slightly decrease (by perhaps 0.03%). Meanwhile it should be possible for the farmers to maintain their profits, offsetting increased costs with increased selling prices.

An obstacle to such change, however, is what may be called economic inertia. Producers tend to resist legislation – or pressure from intermediary buyers – to improve conditions for animals because in existing price structures buyers continue to expect low prices. Any increased cost of production would therefore be borne by producers and they would suffer losses or reduced profits, at least short-term. If these short-term effects can be avoided, though, by making changes gradually or deploying public subsidy, a new situation with increased costs and increased income from increased food prices need not be disadvantageous to producers. A major consideration, of course, is protection against imports of food products from countries without similar legislation. Such protection, taking into account animal welfare standards, is already being sought by the European Union (supported by welfare groups) in negotiations at the World Trading Organization. Note, though, that producers who talk of whole industries going out of business in the absence of such protection may be overstating their position. For example, Denmark has for years required more space in battery cages than other European countries, without being able to restrict imports. Its egg industry survives, albeit perhaps smaller than it might otherwise have been.

As we have said, major improvements in farm animal welfare could be achieved with only minor increases in food prices. Mechanisms should be sought to achieve this.

Issues raised by the workshop

On the part of the consumer, the major issue relates to a lack of knowledge about aspects of animal welfare in relation to food production. Current labeling practices cause confusion and there is a gap in the thinking between the consumer and the producer. For the producer, any animal welfare legislation is seen to have cost implications in terms of extra capital investment for welfare friendly buildings, higher labor costs to attract quality stockpersons and apply quality stockmanship, and investment in new genetic lines. Currently these are not balanced by increased profits. Finally, there are many farm quality assurance schemes that include welfare codes but there is a lack of monitoring in these schemes.

Recommendations

- Improvements to farm animal welfare could be paid for by taxing citizens rather than charging consumers. In that way, all farm animals would benefit, not just those supplied to niche markets.
- A program should be implemented to improve education about animal welfare issues of everyone in the chain from stockpersons to producers to consumers and the large corporations.
- A greater integration of the food chain would allow the extra income for high welfare products to trickle down to the producer and stockperson.

ENVIRONMENT

Agricultural systems use a set of soil, plant, fossil fuel, and human resources to produce food that has an economic value. Social and environmental outputs are also produced whose value is less easy to quantify. These environmental outputs can be potentially detrimental or beneficial. Examples of these outputs are emissions of methane, carbon dioxide, and ammonia into the atmosphere, run-off of nutrients and other compounds into watercourses, contributions to biodiversity, and the provision of landscapes. It is unfortunate that these outputs are often called impacts and considered to be of a negative nature. It can be argued that these outputs have in some instances equal or greater importance to food production. Cultural attitudes are shifting from resource exploitation to a paradigm of sustainable development and this implies a change in the weighting of food production, and its consequent economic and social benefits, in relation to environmental outputs.

A major difficulty is in translating this paradigm into practice. This is partly because society is still adjusting its view of a sustainable development paradigm. It is also partly because society finds it difficult to value environmental outputs such as clean air, water of a certain quality, ecosystems with a particular level of biodiversity, and different landscapes. Equally, there is often imperfect or

insufficient knowledge of how to design agro-ecosystems to deliver desired environmental outputs and how much they will cost to create or maintain. Hence the difficulty of governments in developing policies that work and the fertile ground that it produces for pressure groups to invoke what evidence there is to support their case. These difficulties are most manifest in the developed world of which the UK typifies the issues well. For example, several inferences can be drawn from consideration of extensively managed livestock systems in the UK. Current livestock systems, as they have become more specialized, have produced less desirable environmental outputs. They have produced more undesirable emissions to the atmosphere, increased the loss of nutrients into watercourses, reduced plant and associated biota diversity, and altered the structure of landscapes. Creating greater quantities of desirable environmental outputs is not necessarily rapid, has considerable uncertainty attached to their production in some instances and can then be expensive to maintain.

It is argued that the extent to which land resources can be used to achieve multiple objectives with food production being the primary objective needs to be re-addressed with environmental objectives, at least in some parts of the UK, being the primary objective. Land managers should be paid to provide such objectives, once identified, with income from secondary food production offsetting some of the payments to produce environmental goods. From this analysis cheap food and environmental outputs or impacts need not necessarily be positively correlated.

Issues raised by the workshop

There is a lack of clarity about what is a desirable environment and on whether public opinion is fully informed, for example on Genetically Modified Organisms and organic farming. Important issues include unknown risks from climate change (those on the margins of existence are particularly vulnerable); maintaining environmental biodiversity in relation to plants/animals/ecosystems; environmental accountability, minimizing pollution, and protecting potentially fragile systems. How do we pay for environmental gains when there is lack of correlation between attitudes and behavior in food choice? For agricultural support vs. environmental objectives, can we develop a simple "environmental cost index" in relation to agriculture that consumers will understand?

Recommendations

- Scientific debate on the impact of animal production on the environment is needed to provide evidence and highlight research priorities. This should include animal scientists, environmental scientists, geographers, and ecologists.
- It is necessary to reconcile conflicting goals in environment vs. animal welfare and environment vs. organic farming.

DISCUSSION

This meeting gathered together many of the UK's most senior animal scientists with representatives of the farming industry, consumer groups, animal welfare groups, and environmentalists. There was strong consensus that the current economic structure of agriculture cannot adequately address major issues of concern to society: farm incomes, food security and safety, the needs of developing countries, animal welfare, and the environment. This economic structure is based primarily on competition between producers and between retailers, driving food prices down, combined with externalization of many costs. These issues must be addressed by a combination of legislation, restructuring of the market, and use of public funds. The workshops also made other recommendations for research and education. The most urgent requirement is recognition that change is needed and development of a vision for what that change must achieve.

Proceedings of the meeting were sent in an open letter to the Prime Minister of the UK, the Right Honorable Tony Blair, signed by Professor John Milne, Past-President of the British Society of Animal Science, Mr. David Henderson, Convenor of the Scottish Centre for Animal Welfare Sciences, and Dr Michael Appleby on behalf of the meeting organizers. Copies were sent to other public figures involved with agriculture throughout the UK and the European Union. The letter urged the Prime Minister to use his office to continue the process of change recommended by the Curry Report (Policy Commission on the Future of Farming and Food, 2002), by initiating further discussion of how agricultural economics can take society's broader concerns into account. This discussion will necessarily involve animal scientists, farmers, consumer groups, and environmentalists as well

as economists. The British Society of Animal Science and the Scottish Centre for Animal Welfare Sciences are keen to contribute to such a process.

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