

# Consumer Concerns and Public Policy for Agriculture<sup>1</sup>

David Blandford and Linda Fulponi<sup>2</sup>

The agricultural sector has typically been a focus of government intervention in industrial countries. Agricultural policies have had a variety of objectives, including the support of farm prices and incomes, price and income stabilization, and the maintenance of an adequate and secure supply of food for consumers. The OECD Secretariat estimates that in 1997 the total level of support to agriculture amounted to \$US 289 billion in the member countries (OECD 1998a).<sup>3</sup>

In recent years the policy agenda has broadened as the general public has become more aware of the impact of agriculture on the well being of society. Environmental effects, the impact of biotechnology, food safety, and the growing industrialization of many parts of agriculture are all being questioned. Governments are being pressured to ensure that public concerns are addressed. A key issue is whether and how to address these concerns.

## **Animal welfare and the role of public policy**

In this paper, we explore these issues by focussing on aspects of animal welfare in agriculture. This is an important area of public concern in many industrial countries. We do not attempt to address “animal rights”. Those who espouse this concept would not accept an agricultural system in which animals are reared for human use.

Animal welfare in agriculture concerns the principles of human care in the use of animals. The premise is that animals can be used to benefit humans but that this carries certain obligations (e.g. Rollin). The essential concern is how humans should use animals and how well we should provide for their quality of life (Halverson). As McNerney (1993) has observed, this may not be consistent with the goal of maximizing economic returns in agriculture.

Animal welfare concerns are most frequently engendered by modern methods of intensive agriculture. At the beginning of the 20<sup>th</sup> century the typical farm was a mixed farm, producing a range of crops, some of which were fed to animals. Livestock often grazed on permanent or sown pasture and on post-harvest crop residues. The confinement of animals was primarily used to protect them from the weather or predators. The farm itself furnished the majority of its inputs; relatively few were purchased. Today, this type of agriculture is a rarity in most countries.

Throughout the 20<sup>th</sup> century, farming became increasingly industrialized. Farms became larger and more specialized and production more intensive. This was achieved through the adoption of new technologies and a substantial increase in

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<sup>2</sup> David Blandford ([dblandford@psu.edu](mailto:dblandford@psu.edu)) is a professor and head of the Department of Agricultural Economics and Rural Sociology at the Pennsylvania State University, University Park, PA 16802, U.S.A. Linda Fulponi ([linda.fulponi@oecd.org](mailto:linda.fulponi@oecd.org)) is an economist in the Directorate for Food, Agriculture and Fisheries, Organization for Economic Cooperation and Development, 2 rue André Pascal, 75775 Paris Cedex 16, France. The opinions expressed in this paper are those of the authors, and do not necessarily correspond to those of the OECD Secretariat or to the member governments of the OECD.

<sup>3</sup> Estimate of total transfers for 28 of the 29 member countries of the OECD, excludes Korea.

purchased inputs. Agricultural support policies may have accelerated this process. In industrial countries a minority of the total farms currently accounts for the majority of total output; it is generally on the most productive farms that intensification and industrialization dominate.

Livestock farming has undergone enormous change. Many farmers now confine and feed their livestock in specialized housing. These production systems raise a number of concerns, such as the impact of animal waste on water quality, noise and odor nuisance, and the welfare of the animals. Confinement facilities are often relatively expensive to construct and operate. Consequently animals frequently have limited living space. Drugs may be used to reduce the risks of disease or to increase productivity. There are additional welfare concerns when animals are transported long distances for sale or slaughter.

The general public often looks to governments to adopt policies to assure farm animal welfare. At the very least, governments might be expected to establish minimum standards for animal welfare. Thus most industrial countries have rules governing the transportation and slaughter of farm animals. In the EU regulations have been also adopted governing the density of chickens kept in confinement and methods of producing veal.

A central issue for policymakers is to determine social objectives and how these can be achieved. What criteria should be used? How can these be applied when there are conflicts of interests or differing preferences among members of society?

Economists and philosophers have developed a variety of approaches to the determination of social choice. In economics, the underlying assumption is often made that social choice should depend on individual preferences. From the way that individuals order or rank their preferences decision rules can be identified. It is arguable that social choice should also depend on the intensities of preferences and that other factors, such as ethical considerations, should be taken into account (Sen 1970).

Economists are frequently asked to assess ways of achieving social objectives. 'Economic efficiency' is used as a benchmark (Bromley). All alternatives, including public policies, are judged according to this norm. This norm is not "value-free", since it depends on the assumption that the market will accurately reflect social benefits and costs.

### **The role of the market**

By reflecting individual choices, market outcomes will have implications for social choice. These outcomes may or may not be socially acceptable. In any event, market forces will affect the degree to which social objectives and policy aims can be achieved.

How is policy to be determined when members of society hold differing ethical views? Some might argue that high ethical standards should dominate, even if held by a minority, since they often result from strongly held beliefs; others would say that the majority view should prevail. While there is probably little objection in most societies to ensuring a minimal level of animal welfare, its identification will differ.

Many countries acknowledge the legitimacy of differing standards for the slaughter of animals in order to satisfy religious beliefs. Processing facilities for meat conforming to religious preferences have emerged in many countries as the result of consumer demand. The codification and verification of standards is typically provided by religious authorities, rather than through government. These standards may be “lower” or “higher” than those accepted by society as a whole.

If consumer preferences for “animal friendly” products exist it is likely that there will be a response to the business opportunities that this presents. Government may have a role in guaranteeing that products have the qualities consumers expect, by establishing production standards for commodities labeled “free range”, for example. This could be achieved in cooperation with interested groups. Government can enforce a labeling requirement and monitor industry compliance with the standards. The cost of these services will ultimately be borne by consumers through higher prices. Through such mechanisms it is possible to supply products that satisfy more exacting consumer demands providing that they willing to pay any increased costs. Those consumers who choose not to purchase the products, because of differences in preferences or a lack of income, will be allowed to do so

### **Assessing economic benefits and costs**

Economists evaluate changes in public policy by comparing their monetary benefits and costs. This benefit-cost calculus is relatively straightforward when all inputs and outputs have a price. It is more difficult when an “output” of an economic activity, such as animal welfare in agriculture, is not easily expressed in monetary terms. Some producers may be aware of the economic value of animal welfare, since the stress created by poor treatment can lower the value of the final product. In this regard, research undertaken in New Zealand on the effect of stress on meat quality and market value is instructive. Providing that the effects are reflected by a lower market price and that the price difference is sufficiently large, producers will likely eliminate the source of the stress.

It is much more difficult when little physical difference is created by a change in production practices, for example, those that are viewed to be “animal friendly”. In this case, economists usually try to find a way to place a value on the “intangible” attribute. When there is a market for products differentiated by production practice, e.g. “free range” eggs, the premium that some consumers are willing to pay may be calculated. But when there is no market for the product, it is only possible to infer its social value through experimentation. Experiments can be designed to test consumers “willingness to pay” for the attribute and from these estimates a social value can be derived (e.g. Bennett and Larson; Bennett). The social value can be compared to the costs of achieving the attribute in order to determine if it is worthwhile. Many criticisms can be leveled against this approach, not least of which is that embedded in it is a particular set of ethical valuations (Sen 1970).

### **The regulatory approach**

A voluntary or government-assisted approach to the promotion of higher standards for animal welfare may not be viable when there is strong pressure to raise the overall standard. It may be that the standards desired are higher than some would be willing to pay for. In this case, government may have to regulate in order to change behavior.

Farmers and processors would be required to conform or face legal sanctions and penalties. There are a number of ways of identifying the standard. Scientists and veterinarians could be asked to determine acceptable animal husbandry practices. This could improve public understanding of the issues and extend the consideration of ethical questions beyond the consumer to society at large. Standards might be determined through the political process. The electorate could be asked to express its preferences through a ballot or referendum on proposed legislation. A less direct method is for elected representatives to debate and frame the appropriate rules and regulations.

If a cost-containing technology does not exist to help meet the higher standard of animal welfare, producers and/or consumers will have to pay to meet it.<sup>4</sup> Insight into this is provided by some recent work by the OECD Secretariat (OECD 1998b). In one scenario examined, regulations are imposed on producers of pork and poultry to create less-intensive production methods requiring more feed per unit of livestock product output. The analysis suggests a number of important conclusions:

1. The costs of the changes in production practices are largely borne by the consumer since they translate into higher consumer prices.
2. It would be necessary to restrict imports of “non-conforming” products. Otherwise consumers who are indifferent to production methods would switch to cheaper imports. That would penalize the domestic industry and undermine the initial objective.
3. There would likely be significant effects on international prices of grains and feed. This is because the higher feed requirements associated with less intensive production methods would add to feed demand internationally.
4. Poorer consumers, both in the country imposing the restriction, and in countries not imposing the restriction would be the ones most affected by the increase in prices.

McInerney (1995) estimates that implementing a range of practices designed to improve animal welfare would add only one quarter of one percent to the food bill of the average UK consumer. Since the fraction of the retail price represented by the farm price is small (the value-added in processing, handling and distribution is large) the final impact on consumer prices of an increase in production costs is modest. In richer countries, the disproportionate effect on consumers with low incomes could be important but might be rectified by income policies. However, the global community’s record of addressing distributional issues between rich and poor countries is not one that inspires confidence.

If only parts of the livestock industry have to comply with the production requirement, say the poultry industry but not the pork industry, consumers who are unwilling to pay for the higher-priced poultry products would switch their consumption to other products, such as pork. This would result in a contraction in the domestic poultry industry and an expansion of the pork industry. The effects can not be determined a priori, but in all probability grain and oilseed prices would increase somewhat, but by less than with the imposition of a higher animal welfare standard on all intensive livestock industries.

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<sup>4</sup> Taxpayers may also bear some of the costs by virtue of the public expenses associated with administering and policing the standard.

From a social perspective, these adjustments are not necessarily undesirable. If the regulation causes adjustments that reflect the full social costs of production then so much the better.<sup>5</sup> Some poultry producers may go out of business, but this is a necessary consequence of correcting the initial distortion. A social problem could exist, however, if there are negative externalities in the pork industry; only addressing the externalities in the poultry industry will exacerbate these.

### **Technical change and the role of research and extension**

Higher animal welfare standards need not increase the costs of production or processing if appropriate technologies exist. One example is rotational grazing as an alternative to confinement for dairy cattle. In the United States, as elsewhere, the tendency has been for dairy farming to become more intensive with the confinement of cattle in specialized housing. However, in certain parts of the country, there has recently been the spread of a system more similar to that used in New Zealand. For as much as the year as is feasible, cattle are grazed outside. A series of paddocks is created and animals are moved between them in line with grass production. Although this system may not yield such high levels of milk production over a lactation cycle and requires investment in fencing and water supplies, it can be quite profitable. Cattle kept under the system have been found to be healthier and tend to have a longer productive life. The system may require more managerial time but there are substantial cost savings through not having to produce and handle large volumes of feed. The cows naturally fertilize the pasture and manure storage and handling costs are reduced substantially. In addition, some of the odor and water contamination problems that can be associated with confinement may be reduced.

One important lesson was the key role played by public research and extension. The system was piloted and evaluated by land grant universities and then made available to farmers. Indeed the public sector has a key role in the development and diffusion of technology in which there is a significant “public goods” component, and numerous studies have shown that the benefits far outweigh the costs.<sup>6</sup> The private sector may not find it profitable to develop or to propagate technologies whose aim is to improve animal welfare if it cannot recover the costs of doing so. There is a strong argument to be made for the use of public money for the development of more “animal friendly” production, handling and processing technologies in countries that place a high priority on these issues.

### **Compensatory approaches**

Where cost-offsetting technologies do not exist, government might compensate producers for adopting higher welfare standards. This approach is proving popular for rewarding farmers for the provision of public goods or positive externalities. In the

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<sup>5</sup> An externality is an output that does not have a market price. Farming may create negative and positive externalities. One example of a negative externality is the pollution created by agriculture.

<sup>6</sup> A public good is one whose use or enjoyment by one consumer does not diminish the amount of the good available to another consumer. The example often used is a radio transmission. The benefit that I receive by listening to a program does not diminish your ability to receive and enjoy the same program. The problem with a public good is that a given individual does not have an incentive to pay for the good. This is often the case with agricultural research. If any individual who makes use of the research can capture the benefits then there is no private incentive to pay for the research. If society as a whole benefits, society as a whole must pay for the research to be undertaken.

United States many states have programs to induce farmers to keep their land in farming, rather than using it for residential or other purposes. The aim is to preserve green space. Recognizing that a restriction on the use of the land prevents the farmer from realizing a financial gain, public money is used to compensate the farmer. A similar approach could be used for producers who adopt “animal-friendly” production practices. It would be necessary to find a method to value the foregone profits in order to set the amount of compensation.

This approach would not necessarily require coercion, unlike the imposition of a regulatory standard enforced through law. Producers could be “bribed” to adopt the preferred practice. Economists would argue that the profit-maximizing producer would behave rationally and accept the bribe providing that the payment is at least equal to the profit forgone. If producers themselves place a value on an increase in animal welfare, the amount of the bribe would be less. The level of compensation could be set by allowing producers to bid for payment. Those producers with the lowest bids would be accepted into the program. There are problems with this approach, not least that producers may collude in the bidding process. Governments may also find the costs unacceptably high, particularly if they wish to raise the standards applied by all producers. If the adoption of the standard results in substantial foregone profit, the amount of compensation required to induce some producers to adopt may be large.

Compensation could also be used in conjunction with a regulatory approach. As in the previous case, setting the level of compensation presents problems. It is likely that most governments would set a uniform level of compensation, and that some producers would either be over- or under-compensated. It should also be noted that if the government compensates producers, they might have little incentive to press for research into methods to reduce the costs of meeting the standard. Over the long term, compensation may reduce the supply and adoption of technical innovations that are both cost-reducing and animal-welfare enhancing.

The use of compensation to achieve animal welfare goals raises a number of equity issues. With this approach, taxpayers rather than consumers pay producers and the effect will depend on how the tax revenues are raised. If this is through a progressive income tax, richer members of society are likely to bear much of the burden. If the money is raised through consumption taxes, the equity implications will depend on the incidence of those taxes. The implications of funding the payments through a tax on luxury items are obviously very different from the use of a general consumption tax.

### **International trade**

Trade issues associated with meeting animal welfare concerns could be important and contentious. As a minimum, a government that wishes to facilitate the labeling of animal friendly products would need to certify that imports claiming to meet the standard did in fact conform. It might do this by using “rules of origin”. There is a risk that this will be used to limit import competition. Current international trade law permits countries to impose sanitary and phyto-sanitary standards but this is a disputed area. Some countries have vigorously resisted suggestions that animal welfare standards be granted the same standing as health. Some countries argue that the determination of risk to health or safety ought to be based on “sound science”,

although scientific opinion may differ on what constitutes a hazard. It is difficult to see how animal welfare standards could be based purely on sound science, since the judgment of what is acceptable is so dependent on value judgments. However, countries might be able to agree on definitions of humane practice and could certify each other's products as meeting such standards. Through the use of a multilateral agreement governing product certification, consumers could be accurately informed when they make their purchasing choices.

Greater conflict is likely when governments seek to impose unilateral restrictions on imports in order to meet domestic goals for animal welfare. If foreign producers do not have to incur the costs of meeting the higher standard, they may be able to undercut domestic producers. Regulation may drive animal production overseas, rather than raise standards at home. Governments will be tempted to impose restrictions on imports in order to prevent this from happening.

The principal multilateral treaty governing trade derives from the General Agreement on Tariffs and Trade (GATT), administered by the World Trade Organization (WTO) located in Geneva. The WTO was established after the successful conclusion of the Uruguay Round of Trade negotiations in 1994. The WTO investigates complaints of unfair trade practices brought by its member countries.

One of the most celebrated complaints relating to animal welfare was brought against the United States for its treatment of imports of tuna. The United States argued that some countries were using fishing methods that resulted in the unnecessary death of a large number of dolphins. It acted to restrict imports of tuna from such countries. The predecessor to the WTO in 1991 ruled that such restrictions contravened the GATT. Under the Treaty the United States was required to lift its restrictions or to pay compensation to the affected countries. In 1991 the GATT panel on tuna ruled that a country is not permitted to ban imports for environmental reasons outside its own territory.<sup>7</sup>

The tuna case demonstrates that unilateral trade restrictions to satisfy domestic animal welfare aims are likely to create conflict and to be ruled illegal. Some have argued that animal welfare should be the subject of international negotiation under the WTO. In certain cases, for example the protection of whales and trade in endangered animals and animal products, international agreements have been reached (with varying degrees of success in terms of enforcement). Some countries are reluctant to enter into international negotiations on this subject, because they are fearful of the effects on international trade or on domestic sovereignty.

Economists would argue that when the source of a problem is not trade-related, it should not be addressed through trade policy. For animal welfare, this implies that the best approach would be to try to change production practices globally rather than restricting trade in products that do not meet certain standards. From the perspective of economic efficiency (benefits relative to costs), this is likely to be the best

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<sup>7</sup> The dispute was settled bilaterally between the United States and Mexico, the country that initially lodged the complaint. The European Union lodged a further complaint against the United States in 1992. In 1994, a GATT panel again ruled that the United States violated the GATT prohibition on quantitative restrictions. In 1997, the US Congress passed legislation eliminating the embargo on tuna imports caught with purse-seine nets – the source of the controversy in these cases.

approach. However, achieving global changes in animal welfare through such an approach is a daunting task.

### **The reform of agricultural policies**

We began this paper by pointing out that governments in industrial countries spend a lot of money on supporting agriculture. Not only are many of the policy measures used expensive, they have been increasingly criticized for being inefficient in achieving stated policy aims. In some cases agricultural policies may be detrimental in terms of environmental quality. In recent years many countries have attempted to reform their agricultural policies and there has been some progress (OECD 1998c).

A key issue is how the new policy concerns relate to this process. Will the new concerns be used as an excuse for maintaining inefficient and costly agricultural policies? Will the process of reform be slowed? Will there be a move to less reliance on markets and more reliance on government? Will the trend towards trade liberalization be replaced by a trend towards trade protection? It is very difficult to answer these questions. But it can be concluded that careful scrutiny of proposed policy mechanisms will be required.

### **Conclusion**

We have tried to demonstrate that addressing ethical concerns in agriculture through public policy raises a number of complex economic issues. We do not argue that decisions of an ethical nature can or should be based solely on economic considerations. But we would argue that economic analysis has a role to play in informing debate about such decisions. Though the assumptions used in economics analysis are not objective or value free, they can in many instances provide valuable information for assessing policy alternatives. After all Adam Smith, the father of modern economics, was a Professor of Moral Philosophy.

## References

- Bennett, Richard and Larson, Douglas (1996). Contingent Valuation of the Perceived Benefits of Farm Animal Welfare Legislation: An Exploratory Survey, *Journal of Agricultural Economics* 47 (2) pp. 224-235.
- Bennett, Richard (1998). Farm Animal Welfare and Food Policy, *Food Policy* 22 (4) pp. 281-288.
- Bromley, Daniel W. (1990). The Ideology of Efficiency: Searching for a Theory of Policy Analysis. *Journal of Environmental Economics and Management* 19 (1) pp.181-94.
- Halverson, Marlene (1991). Farm Animal Welfare: Crisis or Opportunity for Agriculture, Working Paper P91-1, University of Minnesota, Dept. of Agricultural and Applied Economics and Institute of Agriculture, Forestry and Home Economics.
- McInerney, John P. (1993). Animal Welfare: An Economic Perspective. Paper presented at the Agricultural Economics Society Conference, Oxford, 1993.
- McInerney, John P. (1995). The Cost of Welfare – The Food Consumer’s Viewpoint. Proceedings of the Society for Veterinary Epidemiology and Preventive Medicine, 29-31.
- Organization for Economic Cooperation and Development (1998a). *Agricultural Policies in OECD Countries. Monitoring and Evaluation*. Paris.
- Organization for Economic Cooperation and Development (1998b). *The Agricultural Outlook 1998-2003*. Paris.
- Organization for Economic Cooperation and Development (1998c). *The Need for Further Reform* , Discussion Paper for the meeting of the OECD Committee on Agriculture at the Ministerial Level, 5-6 March 1998, Paris.
- Rollin, Bernard E. (1995). *Animal Welfare: Social, Bioethical and Research Issues*. Iowa State University Press, Ames.
- Sen, Amartya (1970). *Collective Choice and Social Welfare*. North Holland, Amsterdam.
- Sen, Amartya (1982). *Choice, Welfare and Measurement*. Basil Blackwell, Oxford.