



**Emerging Public Concerns in Agriculture: Domestic Policies and International Trade  
Commitments.  
(General Issues and a Case Study of Animal Welfare)**

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A new and more complex political situation is emerging in the agro-food sector as the general public becomes increasingly concerned about the impact of agriculture on the well being of society. Issues such as food safety and quality, environmental sustainability and ethically appropriate methods of production are gaining greater attention. Recent food safety scares, uncertainties about the effects of the use of growth hormones in animals, and suspicions about the long term effects of genetically modified organisms on human health and the environment have generated distrust and scepticism. Protests are being made on moral grounds against production practices which may cause unnecessary pain and suffering for farm animals. Various groups in society are expressing concern about environmental degradation created by agriculture, its sustainability and its effects on bio-diversity. As a result, governments in many industrialised countries are being asked to implement more stringent rules and regulations.

The extent to which governments choose to respond to these concerns will vary according to cultural and social values and political systems. But it is clear that the search for cheaper food and greater economic efficiency are no longer accepted as the sole standards against which policy choices should be measured. Furthermore, international agreements that aim to promote freer agricultural trade are seen by some as an impediment to addressing social concerns. There is a question as to the extent to which such agreements could and should acknowledge differences in values and beliefs among countries. Some hold the view that the agreements should not undermine the primacy of domestic objectives. Others argue that the new concerns are essentially a subterfuge for those who wish to protect their domestic agriculture from international competition.

Trade conflicts resulting from differences in ethical views on food production processes have not yet arisen, but it seems likely that they will. Farm animal welfare and the use of genetically modified organisms (GMOs) have important ethical implications that are likely to be reflected in the international arena. Animal welfare is an important area of public concern in the European Union and is likely to become increasingly important in other industrial countries. A recent EU Directive (Council Directive 98/58/EC, July 20, 1998) imposes minimum animal welfare standards for all farm animals reared for food production. Given the importance of trade in livestock products and emerging differences in regulations, international conflicts over such policies could easily arise in the future. Similarly, ethical implications of genetically induced changes in animal and plant life and concerns about their health and environmental implications mean that conflicts are likely to emerge in those areas.

This paper explores some aspects of emerging public concerns in agriculture. The range of issues is large and the potential implications for domestic policy and international trade are numerous. Consequently, we focus primarily on animal welfare in agriculture as a case study. This exemplifies the issues that can arise regarding ethical or cultural norms in agricultural trade. A

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fundamental difficulty is that such norms are not reflected in the physical characteristics of a good. This renders application of standard economic analysis to trade issues ambiguous and difficult. Though animal welfare concerns differ in some respects from those relating to food safety and the environment, they all raise similar challenges for policy makers and economic analysts.

We first discuss some general issues relating to public policy concerns and agriculture, and specific issues associated with animal welfare. We then consider the domestic policy approaches that may be used to deal with animal welfare concerns. Finally we examine the international trade dimension of domestic policies and possible options for reconciling differences.

### **Social preferences and the case of animal welfare**

#### *General Issues*

The majority of consumers in high-income countries now have few fears about obtaining sufficient food; their main focus is on the nutritional content of food (contribution to health) and its quality (contribution to pleasure). Further attributes such as food safety have become an important issue for consumers as a whole, while some groups are concerned about the impact of methods of production on the environment and ethical issues such as animal welfare. The use of genetically modified organisms often crosses these boundaries. To some it is a food safety issue, to others it is an environmental or ethical issue. Regardless of the exact classification that we apply to these attributes, they may enter as arguments in an individual's utility function (Mahé, 1997).

In a perfectly competitive market for private goods, such as those satisfying health or pleasure objectives, a Pareto welfare optimum can be achieved through the market. However, markets may be characterized by some degree of imperfection and government intervention may be necessary to restore optimality. Thus with imperfect information, a buyer's inability to distinguish food safety prior to purchase may justify government intervention to assure the consumer of a certain safety standard. In most OECD countries, governments apply food safety standards and provide or oversee inspection services. Similarly in the case of environmental goods, often because of non-exclusivity and the lack of well-defined property rights, markets may not exist and governments may play an important role. For instance, the Endangered Species Act in the United States addresses the market failure associated with unpriced social benefits of such species (Brown and Shogren, 1998). Viewed in terms of commodity space these cases represent classic market failures.

A person's utility function may also contain an ethics argument. This relates to a person's commitment to a set of values and/or moral code regardless of whether this results in direct personal benefits (Sen, 1987). What Arrow has characterized as a person's preference ordering can be seen as the ordering based on the values that determine and rationalize that person's choices (Arrow, 1953). Preserving the environment for future generations or ensuring the welfare of farm animals can be viewed as ethical arguments of the utility function. However, ethical arguments do not easily fit the common characterizations of either public or private goods, thus analogies to market failures or missing markets are not appropriate. The difficulty is that the achievement of an ethical value or a moral standard may have nothing to do with personal consumption decisions, and is therefore not able to be represented in commodity space. Markets are most useful as a frame of reference for allocating scarce resources among alternative uses within commodity space. But social choices and social policy objectives may not always be amenable to determination in this somewhat narrow commodity/price or market framework. As a consumer I may be concerned with *the methods used to produce an output that I consume*, but as a human being I may be concerned uniquely about *the morality of human behavior towards farm*

animals or the environment.

#### *Farm animal welfare and the role of public policy*

In very general terms, animal welfare in agriculture concerns the principles of human care in the use of animals. A particularity of farm animals is that they are expressly brought into being for human purposes and would not exist or endure any suffering if this were not the case (Blackorby, 1992). The usual premise is that animals can be used to benefit humans but that such use carries certain obligations for their care (Halverson 1991; McInerney, 1993; Bennet, 1995; Rollin, 1995).

Animal welfare concerns are most frequently engendered by modern methods of intensive agriculture. The confinement facilities used are often relatively expensive to construct and maintain. Consequently, animals in confinement frequently have limited living space and their movements are restricted. Furthermore various types of drugs, including antibiotics, may be used to reduce the risks of disease associated with confinement or to increase weight gain or milk production. Use of low dose antibiotics or growth hormones to increase feed efficiency may generate physical suffering and reduce animal mobility.<sup>2</sup> Animal welfare may also be decreased when the production system requires that animals be transported long distances for sale or slaughter as the result of the concentration of handling and processing facilities in larger and more cost-effective units.

To address these concerns the general public often looks to the government for regulations. At the very least, governments might be expected to establish a set of minimum standards for the treatment of farm animals that would be consistent with generally held views on the avoidance of unnecessary suffering. Thus most industrial countries have rules governing the transportation and slaughter of farm animals. However, until recently, most countries have used a voluntary, market oriented approach to ensure the farm animal welfare. If countries more widely adopt animal welfare standards in farming, as appears to be the trend in Europe, a key issue will be defining the standard and its implications for both domestic and international markets. This policy dilemma is not unique to animal welfare; it also arises in the areas of food safety, environment and use of genetically modified organisms.

#### *Defining standards*

Animal welfare has frequently been defined with reference to animal behavior and veterinary science. Much national legislation at the European level is a reflection of the European Convention for the Protection of Animals (1976). This states: "Animals shall be housed and provided with food, water and care in a manner which – having regard to their species and their degree of development, adaptation and domestication – is appropriate to their physiological and ethological needs in accordance with established experience and scientific knowledge." (Sandoe and Christiansen, 1999). Science has been made the judge in determining if animals are being kept and cared for properly, that is according to their physiological or ethological needs.

According to Sandoe and Christiansen this approach has permitted, at least in Europe, the debate on animal welfare to be kept 'objective' with disputes being referred to expert committees of veterinarians and ethologists for resolution. However, a number of new issues have arisen which may take this outside the domain of the 'animal experts'. These relate to the genetic modification of animals.

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<sup>2</sup> Mepham(1996) reports that the package insert of one rBST producer warns of possible side effects including increased frequency of cystic ovaries, disorders of the uterus, increased risk of clinical mastitis, digestive disorders and lesions of the knees (p108-109).

### *Animal welfare and transgenic animals*

Belgian Blue cattle are a genetically modified meat-producing breed, which grow two layers of muscle. The animal is more efficient in meat production and more economically profitable than standard cattle. Due to the extra layer of muscle the animal's ambulation is difficult. For such animals, keeping them in conditions adequate for their 'physiological and ethological nature' would imply restricting their movements. Presumably this would satisfy a science-based set of animal welfare principles. Yet some would object on moral grounds to breeding cattle with a significantly reduced ability to move. Whether the raising of such animals should be prohibited is therefore essentially an ethical question.

A second example involves the breeding of congenitally blind chickens. These animals are also extremely efficient in that they require 25 percent less feed and lay approximately 30 percent more eggs than the 'normal' farm chicken. Furthermore as the animal is blind, its cannibalistic characteristics are greatly reduced and so too is the need for antibiotics given in response to pecking. Living conditions can be quite restricted since the lack of light and attraction to others is eliminated. The animal shows no signs of being 'unhappy'. What are the standards of animal welfare for these chickens? The sheer existence of the animal changes the definition of what constitutes welfare and what welfare standards are appropriate.

These examples show that current animal welfare standards, as defined in the European convention, are largely irrelevant when faced with such new varieties of animals. The issue is an ethical one in terms of animal integrity. Given the rapidity with which the field of biotechnology is expanding the frontiers, it is clear that such issues are likely to become increasingly important. Should the genetic engineering of such animals be banned solely for ethical reasons? Do countries have the right to ban imports of products produced from such animals for ethical reasons? Many of these issues also apply to genetically modified plants and seeds, which have unknown risks for the environment, species preservation and ecological viability of regions. While these issues may relate to developments several years away, discussion of them should begin now given their potentially important domestic and international consequences.

### **Animal welfare and domestic policies**

How are policymakers to respond to social concerns? Two policy approaches to the issue of animal welfare, the voluntary or market-oriented approach and the regulatory approach, are considered in this section. The costs of each are discussed and alternative solutions to meeting the standards are suggested. Each approach will be shown to have different implications for international trade.

#### *Voluntary approaches to animal welfare*

Animal welfare is difficult to classify as a 'good'. However if one wished to consider animal welfare an "output" of the production process, it is an attribute that is not easily monetized. With few or no apparent physical differences in products derived from 'animal friendly' technology compared to other practices, one is attempting to evaluate a non-tangible attribute. Nevertheless, consumers may perceive a difference in that they prefer livestock products that are produced using such practices and consumers may be willing to pay a premium for such an attribute. Alternatively they may be unwilling to purchase commodities that do not possess it. In recent consumer surveys 'animal friendly' characteristics of production were found to be the second leading factor affecting planned consumption of poultry, beef and pork after food safety (Verbeke and Viaene, 1999).

Where animal welfare is viewed as a commodity and not uniquely an ethical principle, the market solution would suggest that animal welfare conforming products would be supplied if consumer demand exists. This is already the case for goods that are produced under religious codes or to meet ethnic preferences. In addition, some producers may be aware of the value to them of ensuring that certain animal welfare standards are met, since the stress created by poor treatment can lower the price of the product. Research undertaken in New Zealand measures the effect of stress on meat quality. Providing that the costs of stress are translated into the market place through a lower price, then producers might have an incentive to alter their practices.<sup>3</sup>

#### *Labeling options*

Where producers are willing to supply products conforming to animal welfare principles, but consumers are not able to distinguish between these and other goods, there is a dysfunction in the market. Many goods produced by the food industry are best qualified as credence type goods, since their quality can not be discerned by consumers prior to or after purchase (Caswell and Mojdukka, 1996).<sup>4</sup> By definition, a credence type good implies a market with imperfect information: asymmetric information between the buyer and seller, thus a specific type of market failure (Akerloff, 1970). Since consumers are not able to distinguish by quality (animal friendly), they may choose the lower quality good and this may drive the higher quality good from the market (Gresham's law). Labeling is the standard prescription for dealing with different qualities while permitting consumer choice. However, uniquely market solutions may not be sufficient (Bureau et al, 1998). This is because, in the case of credence goods, producers have no necessary incentive to provide high quality goods even if they label their products as such, since consumers can never ascertain the real quality. Because numerous consumer concerns involve credence goods and informational imperfections characterize the markets concerned, rules and regulations in the agro-food sector are frequently adopted.

Labelling may be supplied voluntarily by the producer or marketer. Given the nature of a credence good this will need to be certified by an independent third party or by the government, in order to ensure that consumers are guaranteed that the product that they purchase has the qualities they expect. Labeling can be costly, particularly since traceability will typically be required. For processed food, providing assurance on animal welfare conforming ingredients may require traceability throughout the food chain. Such labeling will likely increase product cost and this will eventually be passed on to consumers in the form of higher prices.

The government can help to establish standards for the production of commodities that are labeled as "animal friendly" in conjunction with interested groups such as producers, distributors and consumers. Government can provide, or facilitate the provision of inspection and monitoring services to ensure that the standards being advertised are being met. Through such co-operative mechanisms it is possible to supply products that satisfy more exacting demands of consumers without regulation. Such approaches allow consumers the freedom of choice between 'animal friendly' products and other products. This approach does not hamper trade as products meeting different standards can be imported freely. If an exporter conforms to the 'animal friendly' criteria of the importer, he/she may be certified as such, thus providing even greater choice of products to the consumer.

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<sup>3</sup> Another example from New Zealand is the trend towards the abandonment of the traditional practice of castrating lambs. Research has shown that this is unnecessary and can lead to reduced weight gain.

<sup>4</sup> Goods are often classified as either experience, credence or search goods. An experience good is one whose quality is determined through after purchase, a search good is one where quality is determined before purchase, while quality of credence goods cannot be determined by consumers either before or after purchase.

### *The regulatory approach to animal welfare*

A voluntary or government-assisted approach to the promotion of adequate standards for animal welfare may not be viable when there is strong pressure to change production or processing practices in order to raise the *overall* standard of animal welfare. Some will contend that animal welfare standards reflect an ethical stance by society and that their implementation should not be determined in the market place. The government may thus set a standard for the production and/or processing of animal products and enforce that standard through regulation.

The EU Directive referred to earlier requires that member states ensure that the conditions under which animals are kept or bred correspond to their species as well as to their physiological and ethological needs, in accordance with established experience and scientific knowledge. It is accompanied by comprehensive regulations relating to most physical aspects of farm animal life.<sup>5</sup> In addition, the animal welfare provisions of products may become a compulsory component in consumer information in the future.

There are a number of issues associated with such regulatory approaches. First there is the difficulty of actually identifying the standard. As indicated earlier this is not straightforward in a world in which the needs of animals can be changed through genetic manipulation. For instance, article 12 of the EU Directive Annex specifies "that animals must not be kept in permanent darkness or without a rest from artificial lighting..." but what is the significance of this for the congenitally blind chicken? The welfare of such a being is technically unaffected by the regulation on lighting. Establishing such stringent domestic standards is likely to raise a number of issues for international trade as well as domestic producers. Can standards for domestic production be set higher level than for imports? From a purely economic perspective, what are the costs of applying the standard and who bears the costs?

### *The costs of regulation*

The imposition of animal welfare standards will increase producer and ultimately consumer costs if they require producers to use higher volumes of feed for a given level of output, or to install new and expensive housing or to use more energy. In a recent edition of the Agricultural Outlook, the OECD Secretariat analyzed the impact of the promotion of less-intensive livestock production methods on the prices and traded quantities of meat and livestock feed (OECD, 1998). Based on research in the United Kingdom, it was assumed that the less-intensive methods require more feed per unit of livestock product output. The results indicated that the increases in production costs for meat translate into higher consumer prices and, perhaps more important from an international perspective, into higher grain and oilseed prices.

In a related empirical analysis, McNerney (1995) estimates that the costs of implementing a range of practices designed to improve animal welfare would add only one quarter of one percent to the food bill for the average UK consumer. Much depends on the extent to which retail prices change as price changes at the farm gate but as McNerney's work suggests, in all probability the costs to consumers in richer countries would not be prohibitive. The disproportionate effect on consumers with low incomes is an issue but this might be rectified by more general income policies. The impact of higher grain prices internationally would fall disproportionately on poorer consumers in grain importing countries but monetary transfers from richer to poorer countries could be used to offset this.

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<sup>5</sup> The regulations are designed to conform to the Amsterdam protocol (1996) on animal welfare.

Such empirical analyses neglect the costs (through negative externalities) that may be generated by intensive animal production, such as disposal of animal waste, medical wastes, and carcasses, water pollution, odor prevention, and management costs as compared to less intensive methods. Both the positive and negative externalities created by intensive animal production must be evaluated to estimate the real costs of moving to less intensive animal production systems. To the extent that the costs of intensive production are not passed on to consumers through higher prices they will be a burden to society in other ways. The costs may be borne by taxpayers through higher taxes needed to pay for to clean up some of the negative outputs associated with intensive animal production. They may be borne by individuals, some possibly unborn, who experience the impact of the negative outputs. We can only be certain that lower consumer prices will benefit society if these reflect the full costs of the productive activity, including its impact on human health and the natural resource base. Lower production is not necessarily undesirable, if regulation causes an adjustment in the poultry industry in line with that which would be justified by internalizing the full costs of production (including the negative externalities associated with the production process) then so much the better. Some poultry producers may go out of business, but this is a necessary consequence of correcting the distortion that existed in the first place.

Some research suggests that consumers in richer countries may be quite prepared to incur the costs that would result from the application of a higher welfare standard. Recent applications of contingent valuation approaches in the United Kingdom, for example, suggest that consumers would generally will be willing to pay higher costs for eggs if this would result in an improvement in animal welfare (Bennett and Larson and Bennett 1998 a, b). However, the contingent valuation approach has been subject to considerable criticism. Supporters assert that the method can elicit information on the latent demand curve for an attribute provided that the survey is well done. Critics refer to them "as opinion polls on possible government actions, but do not have much information to contribute to informed decision making" (Diamond and Hausmann, 1994, p.46). Other critics have noted their more fundamental shortcomings by asking what kind of social choice underlies the contingent valuation procedure (Sen, 1995). It appears that the philosophy behind contingent valuation methods is that non-market 'goods' such as environment or animal welfare can be seen in essentially the same way as a normal private commodity. This methodological dilemma facing policy makers is particularly acute in the valuation of public goods in the area of environment, where existence values of species or preservation of nature are in question. Certainly in the case of animal welfare it is only a partial reflection of reality.

#### *Controlling the costs of meeting higher standards*

Higher animal welfare standards will not necessarily increase the costs of production or processing if appropriate cost-containing technologies can be found. Some of the technologies that might have this effect are housing systems designed specifically for less-intensive livestock production, perhaps using animal waste (biogas) to provide a source of energy. This would reduce the amount of feed needed for the livestock, and in some climates could lower the costs of heating or preventing heat stress. Improvements might be gained through advances in feeding technology to provide lower cost feeds or to reduce waste.

One example of such an option is the use of rotational grazing as an alternative to confinement for dairy cattle. Rotational grazing was not developed specifically to address animal welfare issues, although improved animal welfare does appear to be one of its benefits. In North America the public sector has played a key role in the development and diffusion of the technology. It is generally acknowledged that the public sector has a role in many such activities and that the public benefits of agricultural research generally far outweigh its costs. 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. This type of government action not only facilitates the adoption of desired practices but also is unlikely to distort markets. Halverson notes that there is no reason a technologically advanced society cannot design and manufacture technologies that will meet important welfare criteria and be profitable for farmers. The Andersson and Thorstessen farrow to feeder pig system and the automatic milking systems (AMS) provide examples. These are considered to improve animal well being by increasing the autonomy of animals as the animals themselves decide when they wish to be fed or milked.

Where technologies do not exist to offset the costs of meeting the higher animal welfare standard, the government might consider compensating producers for adopting the standard. This would not necessarily reduce social costs but would shift the burden of paying for the higher standard from consumers to taxpayers. It would be necessary to find a method to value foregone profits in order to set the amount of compensation. If governments set a uniform level of compensation, some producers would either be over- or under-compensated for conforming to the standard. Compensation may also need to be calculated also taking into account the negative externalities generated by intensive livestock systems. One way to find the necessary level of compensation would be to establish a system in which producers could bid for compensation from the government. There are problems with this approach, not least of which is that producers may collude in the bidding process or governments may find the costs of compensation unacceptable, particularly if they wish to raise the standards applied by all producers. If compensation to producers is expected to continue indefinitely, it may reduce the supply and adoption of technical innovations that are both cost reducing and animal-welfare enhancing.

Since the compensatory approach shifts the burden of paying for higher welfare standards from consumers to taxpayers, the distributional implications will depend on the tax system in place. To the extent that the burden of paying for the higher standard is shifted towards the wealthier elements of society, some of whom may be among the more vocal in calling for higher standards, this might be considered a more equitable approach.

### **Animal welfare and international trade agreements**

#### *General Issues*

Where standards differ between the home and exporting country, imports may face trade restrictions. These may be necessary both to avoid disadvantaging domestic producers subject to higher standards and to assure consumers about product characteristics. While the application of higher standards on imports might be justified when viewed from a food safety or animal welfare perspective, it may also lead to non-tariff barriers to trade (NTBs) and protectionism. Mahé (1997) notes that “the challenge is to distinguish between public regulations contributing to national and/or global welfare...and those which are in reality diverting government actions in favor of rent-seeking under the influence of pressure groups.”(p. 248). This is indeed a challenge.

Within the framework of the Uruguay Round Agreement (URA), domestic policies that seek to prevent the entry of products that do not meet health, quality, safety or environmental standards of the home country are subject to international scrutiny and are subject to legal sanctions (Roberts, 1997). Such scrutiny has been exemplified in the examination of EU regulations on the use of animal growth hormones and US environmental protection policies. The interdiction of rBSt in the EU has not yet generated trade conflicts as little trade occurs in liquid milk, but it could be a point of contention in the future.

The potential impact of differing standards between countries may be seen from the EU-US beef hormone dispute. The European Union prohibits the use of bovine growth hormones because of

allegations about their possible negative effects on human health, but the United States finds no scientific evidence to support this claim. A GATT panel has ruled that unless further sound science evidence is presented the Union will have to rescind its import ban and pay compensation to foreign producers. This is evidence of the fairly strict application of science rulings in international trade conflicts.

Current international agreements in the WTO dealing with standards address exclusively a product or process which leaves some physical trace. They do not address factors that may leave no tangible effect on a product, such as animal welfare standards. While animal welfare issues may also contain health or safety elements, their primary *raison d'être* is an ethical one. At present, animal welfare standards could possibly be justified by appealing to article XX (a) of the GATT, which deals generally with exceptions to the agreement and permits the restriction of trade for moral or cultural reasons. The wording if not the interpretation of article XX is ambiguous and this could give rise to controversy if it were invoked to justify the restriction of trade for animal welfare reasons. It might have a greater chance of being invoked for goods produced by child or slave labor or for environmentally dangerous goods or production processes that endanger a given species. However even these might not meet with much success as the US-Mexico Tuna/Dolphin case attests.

The United States argued that certain countries were using fishing methods that resulted in the unnecessary death of a large number of dolphins. The US banned imports of tuna from all countries that could not prove that their fishing methods respected US norms. In 1991, a GATT panel ruled that a country can not ban imports for environmental reasons outside its own territory and the United States was required to lift its restrictions or pay compensation to the affected countries.<sup>6</sup> But the US could apply its rules to the quality or composition of tuna based products which are imported. It also ruled that the United States had the right to label its domestic products 'dolphin-safe' thus permitting consumers the choice of what they purchased. The tuna case demonstrates that trade restrictions imposed unilaterally to satisfy domestic concerns or aims relating to animal welfare are likely to produce challenges on the grounds of legality by other countries.

#### *Animal welfare and trade*

While society's concerns about animal welfare generate a number of domestic policy dilemmas, they may also give rise to trade conflicts under present international agreements. The lack of conflict thus far is probably due to the fact that only a limited number of countries have introduced binding regulations for animal welfare, and thus the share of trade affected has been limited. Nevertheless, OECD trade in meat, animal products and live animals amounted to approximately US\$ 23 billion in 1996, or about 13% of total OECD agricultural exports and 14% per cent of agricultural imports. There is the possibility that a significant amount of agricultural trade could be affected if differences in animal welfare standards become an important issue. While the EU Directive governing animal welfare on EU territory cannot be contested, the unilateral imposition of welfare-based production standards for imports from third countries could be source of conflict. Sir Leon Brittan on behalf of the Commission noted that "such possible conflicts can be effectively avoided through the adoption of international welfare-based

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<sup>6</sup> In fact 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.

standards in the framework of bilateral or multilateral agreements." He also added that this issue might be raised in the WTO.<sup>7</sup>

Currently countries can only legitimately restrict imports of products if these have health risks for consumers, which can be supported by evidence provided by sound science. It is within the framework of the Codex Alimentarius (Codex) that some countries have raised the possibility of including standards, which are not uniquely science based and human health oriented. Certain countries emphasized the legitimacy of consumer concerns and the need to obtain a consumer consensus for the legitimacy of the international standards body. Under these 'other factors' one might include ethical and cultural issues such as animal welfare, because of their importance to consumers and society at large (Bureau and Marette, 1999). Runge (1998) has suggested that "it is not inconceivable that the Codex itself could be expanded to accommodate (at least in the agricultural sector) expertise on agro-environmental issues and genetically modified organisms." However for the moment, many insist on maintaining the Codex as uniquely science based and human health oriented. Some view the 'other concerns' criteria as opening up the possibility for the use of non-tariff barriers with only weak links to consumer concerns. Attempting to avoid such concerns neither eliminates them nor reduces the probability that they will be reflected in the international trade arena in some form.

Where government regulations are adopted to achieve specific animal welfare standards, consumers have no uncertainty about the animal welfare quality of the product. If markets are then opened to animal products from countries that may or may not require the same standards, consumers will be uncertain about product quality and could experience increased information imperfections and even welfare losses.<sup>8</sup> Where domestic production costs are higher than those of the foreign country, this could drive animal production overseas and domestic producers out of business. To the extent that the purpose of the standard is to satisfy consumer concerns over animal welfare, this would undermine the purpose of the regulation. Furthermore, where the industry is also an exporter of the good it will have to compete in markets with lower cost producers, if no cost-efficient animal welfare preserving technologies are available. This could imply serious economic losses for producers. This raises doubts as to whether domestic standards for animal welfare can be set independently of what is done in other countries. It also implies that the best approach to resolving differences would be to try to change production practices globally rather than restricting trade in products that do not meet certain standards.

#### *The Labeling Option*

The challenge is one of reconciling different standards within an open trading environment. Many of the issues relating to differences in product or process standards are similar whether they pertain to animal welfare, food safety or environmental quality. Labeling, which allows consumers to distinguish between goods is usually recommended as a practical solution. This expands consumer choice and is less constraining for producers (OECD, 1998). But labeling is not a simple task, particularly where a substantial portion of trade takes place in the form of processed products and the traceability of components is required. In the case of meat over 65 percent of trade occurs in processed goods. Detailed labeling with traceability can be quite costly

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<sup>7</sup> He suggested that the possibility of amending WTO rules to address welfare concerns may be reflected in the Community's objectives for the next stage of the WTO negotiations. Response (June 11 1998) to written EP question E-1329/98.

<sup>8</sup> See Bureau et al, (1998) for an enlightening discussion of the theoretical possibility of welfare losses with trade liberalisation and increasing information imperfections for credence goods.

so that it could be viewed by exporting countries as a non-tariff trade barrier. Similar discussions have been taking place with respect to the labeling of consumer products derived from GMOs in Europe.

Problems remain, even when a country applies the same standards in a non-partisan manner to both imports and domestic supplies. The costs of compliance for importers may be greater than for their domestic competitors and even neutral standards would then be discriminatory (Henson, 1998). Divergent conformity assessment procedures might also be used. National standards and conformity assessment procedures will naturally discriminate in favor of domestic suppliers and against foreign suppliers, thus there is a risk that the domestic country will use certification as a barrier to trade.

An important issue is what standards labeling is expected to certify. For animal welfare, is it possible to conceive of international standards that establish minimal agreed practices for raising and breeding of farm animals so that trade liberalization can continue? Some countries have vigorously resisted suggestions that animal welfare standards be granted the same standing as health standards in the interpretation of international law. Furthermore given that countries differ in their views of what constitutes a risk to health or safety and what is acceptable as 'sound science', what can be said in the domain of ethics? Some have nevertheless argued that what is permissible in this area should be the subject of international negotiation and agreement. In certain other 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) to address social concerns.

With the rapidity of change in both technologies and animal varieties, the difficulties of establishing norms remain and perhaps the role of science in ethical issues is merely to contribute to the discussion. Nevertheless, an attempt could be made to define what should be considered to be acceptable treatment of farm animals according to their physiological and ethological standing. An international committee consisting of animal science and veterinary experts as well as ethicists could establish a list of critical levels for animal welfare standards. Then through multilateral agreements governing product certification, consumers could be at least informed about the standards of production of the animal products they are offered.

Self-regulation and private third party certification with some monitoring by government may be used when dealing with different product standards in a closed economy. Perhaps this is transferable to an international setting. There may be a role for an independent private organization for international standards, such as the ISO in the agro-food sector. Since private and public standards may exist these could be mutually supporting to achieve a given objective (Henson, 1998). The use of an international voluntary approach is exemplified by the Marine Stewardship Council's eco-labelling scheme, which certifies that the fish sold come from sustainably managed fisheries.<sup>9</sup> This attests to the possibility of international co-operation in establishing guidelines for addressing issues of public concern. The suggestion has already been made that international ecological interdependence may one day require a code defining transnational rights and obligations in order to deal with transboundary environmental issues (Runge, 1998).

While agreement on the application of animal welfare standards in trade could be important in its own right, it might also serve as an example for the resolution of other conflicts related to ethical and cultural norms agriculture. These are likely to include issues related to genetically modified

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<sup>9</sup> Unilever and the World Wildlife Fund initiated the Marine Stewardship Council.

organisms as well as transgenic animals. Some countries are reluctant to enter into international negotiations on this subject within the framework of the WTO, because they are fearful of its effects on international trade or on domestic sovereignty or because of the sheer difficulty that they see in trying to conclude an agreement. However, given the likelihood that animal welfare will become increasingly important in the political agenda of some countries, the alternative to addressing the issue multilaterally may well be that it will be addressed unilaterally.

### **Conclusions**

A number of emerging public concerns are becoming increasingly important in the debate on the future of domestic agricultural policies. These concerns are likely to have important implications for international trade. Some argue that they will be used as an excuse to slow the trend towards trade liberalisation or to justify a new protectionism. Current international agreements and mechanisms do not deal effectively with the new concerns. The animal welfare issue demonstrates that satisfying differences in social values without generating trade conflicts is likely to be difficult. Nevertheless, it would be unwise to ignore such issues. In the last analysis it will be society as a whole, either through the ballot box or through purchasing behaviour, that will force the agricultural industry to confront the challenges posed by the new concerns.

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