IPC Position Paper No. 8

Reforming Global Meat Policy and Regulations

Published by the
International Policy Council
on Agriculture, Food and Trade
Washington, D.C.
November, 1998

The views expressed in this position paper are those of the members of the International Policy Council on Agriculture, Food and Trade.

To order hard copies of *Reforming Global Meat Policy and Regulations* contact the IPC at:

International Policy Council
1616 P Street, NW, Suite 100
Washington, DC 20036
Tel: (202)328-5056
Fax: (202)328-5133
email: nsmith@rff.org

Preface

The present paper follows the release in 1996 of the first two IPC position papers to propose policy reform for specific commodities, *Sugar Policy in the Post-Uruguay Round Era and Dairy Policy in the Post-Uruguay Round Era*. The current paper on meat policy reform was more than two years in the making. The first draft was developed for the 18th IPC Plenary Meeting and Seminar, October 3-6, 1996 in Calgary, Canada. Subsequent drafts were discussed at IPC meetings since then, with the paper receiving the final approval of the IPC membership at the 21st IPC Plenary Meeting, May 22, 1998 in Washington, DC.

The IPC would like to thank Peter Lacy and Rolf Moehler for writing the paper, and Chris Oberst, Johan Verduijn, Neil Taylor, Lawrence Wrixon, Tamara White and Michael Shanahan for their assistance.

The paper reflects the views of the IPC on reform of global meat policy and regulations and should not be attributed to any other organization or individual.

Overview

In developed countries, consumers' preference for meat products is evolving due to lifestyle changes, health perceptions, safety concerns and other factors. At the same time, demand for meat is rising in many developing and industrializing countries due to increasing income levels. The meat industry is experiencing dynamic change and growth as a result of these shifts in demand, as well as the boost to production that technical advances and industry restructuring are providing. In order to allow this growth to continue and to respond to the changing needs of consumers worldwide, national and international regulatory systems must be recast. The next round of trade talks in the World Trade Organization represents an important opportunity to facilitate the continued growth of the meat industry and its response to changing consumer needs.

The aim of the present position paper by the International Policy Council on Agriculture, Food and Trade (IPC) is to propose policy reforms aimed at increasing international trade in meat products and ensuring a high quality, reliable and safe meat supply capable of responding to these changing consumption and dietary needs. For such goals to be achieved, the WTO talks should aim to reform meat policies through increased market access, the reduction or elimination of export subsidies and domestic supports, and the elimination of tariff rate quotas.

The next trade round should also address many non-tariff barriers to trade in meat, especially those arising from food safety issues. The paper argues that food safety regulations not based on scientific methods should not be allowed to be used as non-tariff barriers to trade. Moreover, greater transparency of national food safety requirements would facilitate efforts to harmonize national standards to improve trade relations. Where harmonization is not possible, nations should rely on equivalency to judge exports and on mutual recognition agreements to facilitate acceptance of different national standards. Providing consumers with the means to make more informed choices is essential to the resolution of food safety problems. Therefore, improved labeling systems need to be adopted involving labels that are positive, verifiable and product-based.

Moreover, regulations established in response to public concerns in the meat sector over animal welfare, the environment, or production processes, that are not based on scientific methods, also should not be allowed to be used as non-tariff barriers to trade. One possible solution to these issues would be to allow support to producers to compensate for costs incurred. In these ways, the IPC believes that trade in safe, high-quality meat and meat products can continue to grow, to the benefit of consumers and producers worldwide.

Introduction

In the past decade, dramatic changes have occurred in global meat consumption patterns. The factors reshaping worldwide demand include changes in income, evolving lifestyles, changes in relative costs of production among the different meats, government regulations, evolving views about the relationship between meat consumption and health, and many others. Demand has grown and should continue to increase in the years ahead, in spite of the current global economic crisis, and every aspect of the meat industry worldwide will eventually be affected.

At the same time, with economic development occurring in many areas of the world, the meat industry has an important Opportunity to make a larger contribution to world food needs. As incomes rise in many countries, the demand for meat as part of a diet richer in protein increases. In addition, many developing and former centrally planned economies have the potential to expand their meat production and most need to increase their agricultural exports to further develop their economies. However, these countries face a variety of technical and environmental standards in the different developed country markets and are often unable to shoulder the cost of setting up their own regulatory systems, or satisfy the often confusing conditions laid down by importing countries.

Improvements in the international trading system and a greater harmonization of diverse standards will better enable meat producers to respond to this changing and growing demand, and provide market outlets for developing country exporters.

The volume of international trade in pork and poultry meat has increased since the 1993 conclusion of the Uruguay Round Agreement of GATT, and while trade in beef and sheep meat has actually declined, prospects for eventual growth are good. Market access has risen in Asia and Europe, and export subsidies are declining. The Agreement stipulated that 1999 would be the starting date for the next round of negotiations, and attention has begun to return to further expanding market access and reducing subsidies and internal supports in meat and other agricultural sectors.

In addition to further liberalization in these traditional areas, the next round is also likely to address a variety of the non-tariff trade barriers that today are playing a more prominent role in agricultural trade relations. One such emerging controversial issue arises through the use of government regulations to address food safety concerns. Crises such as that in Europe over bovine spongiform encephalopathy (BSE, or “mad cow disease”), or the outbreaks of E. coli in Japan and the US, and of foot and mouth disease in Taiwan, have fueled consumer concerns about food safety, and the official reactions are having important ramifications for international trade. Other important consumer issues that require attention as they impact trade in meat are those dealing with animal health, biotechnology, animal welfare, and environmental concerns.

These food safety and other concerns must be fully understood, treated seriously and properly addressed if the appropriate rules and regulations are to be implemented, confidence in the global meat supply restored, and the impact on trade minimized. Tackling these controversial issues will be a signif-icant and important challenge for those countries participating in the next WTO trade round.

After assessing the state of world meat markets, the present paper by the International Policy Council on Agriculture, Food and Trade (IPC) proposes policy reforms aimed at increasing the international trade in meat and meat products, and ensuring a high quality, reliable and safe meat supply capable of responding to these changing consumption and dietary needs. The paper focuses on beef, pork, poultry and sheep meat, as these are the major non-fish meats traded on world markets.

World Meat Markets

Meat has played a major part in the increased expenditure on food and improved diets which have resulted from the expansion in global income in recent decades. According to the FAO, from 1980-1995 total global production of beef, sheep, pork and poultry grew at an average annual rate of about 2.9 percent. Production is expected to continue to grow.
For decades, OECD countries have seen poultry consumption increase at the expense of beef, while in non-OECD countries the increase in disposable incomes and the gradual move towards more protein-rich diets have boosted consumption of all major meats. As a result of these forces, the meat industry today is one of dynamic change and growth, with more restruc-turing and expansion likely in the years ahead.

Technical advances, the increasing scale of production units, vertical integration in the various meat production sectors, environmental concerns, domestic farm policies, and international trade policies are all affecting the type, volume, and location of major meat producers. In particular, advances in technical and other logistical areas have increased supplies, lowered costs, and enabled the production of a wider variety of cutting specifications, while transportation advances have enabled producers to meet consumer needs from greater distances than ever before. A wide-scale restructuring of the industry is also underway. New packaging techniques allow a more than average increase in exports of higher valued fresh meats. An evolution of the means of production, from labor- intensive to capital-intensive operations, is occurring, although neither government policies nor trade flows are yet to be significantly affected. More mergers and takeovers are to be expected and the number of medium-sized (often family-owned) livestock
operations should continue to decline. The pattern of new investment in animal production from outside sources should also continue.

Growth in the meat sector is especially important for developing and industrializing countries. Studies suggest that total demand for animal protein is most responsive to increases in income at per capita levels between $1,000 and $10,000 per

year. Since a large number of developing countries fall within this range, and incomes are expected to continue to grow in the long run, the demand for meat should also continue to grow. The increase in meat consumption in developing countries since 1995 has been 7-8 percent; if this rate continues at 5 percent or more until 2010, and if consumption in developed countries remains stable, total world meat consumption by 2010 could be as much as 325 mmt.

Beef

The growth in consumption of beef has been minimal in recent years, with the decline in many high income countries offset by increases in Asia and developing countries (see Table A). Beef consumption has been negatively affected in many developed countries by consumers' dietary concerns, relatively better prices for other meats, and other factors, including the BSE crisis. Nevertheless, the prospects for growth in the beef market are good, with trade liberalization and enhanced sanitary and phytosanitary rules taking effect. Table B shows these conflicting beef consumption trends for major consuming countries.

Accelerating production in developing countries in the past decade has gradually raised total beef production. As a result, global production was expected to exceed 57.6 mmt by 1997, an increase of 4.2 percent relative to 1994. Experts predict China's beef production could increase by more than half by 2005, joining the US, Europe, Brazil, Argentina, Australia and Mexico as a major beef producing nation.

Approximately 8 percent of world beef production is exported (compared with about 3 percent for pork and 8 percent for poultry). The FAO estimates 5 mmt of beef were traded in 1997 (a 52 percent increase since 1980). With developing world trade likely to improve significantly, exports are expected to rise in most major trading countries (except the EU). The global beef market is currently divided into two parts: the lower-priced Atlantic markets which allow trade from countries with foot and mouth disease (FMD), and the higher-priced Pacific markets which do not. However, this distinction should disappear once FMD is eradicated in South America. The entry into the higher-priced markets of South American and East European countries in the coming years will have an important effect on world beef trade. As incomes rise around the world, demand for grain-fed beef increases, to the benefit of exporters from the US, Canada, Australia and potentially Argentina—the main producers of grain-fed beef. The OECD predicts that by 2000 the Asia Pacific Rim will have replaced North America as the largest beef-importing region in the world.

Pork

The pork industry has seen a net increase in consumption per head in recent years due to rising demand in high income Asian countries and many developing countries (see Table C). Because of the BSE scare, pork consumption has also risen in the EU. The FAO indicates that pork now accounts for 40 percent of the meat protein consumed worldwide (beef is 26 percent

and poultry is 27 percent). Pork production patterns are changing dramatically, with some countries dropping out altogether and a growing concentration in those countries still active. As Table C shows, production has risen significantly in recent years in the US and across Asia. Industry consolidation, lower prices and growing consumption in developing countries should boost world production 2-3 percent per year until 2005. One barrier to a stronger increase in consumption is that pork is not accepted for religious reasons in some areas (e.g., the Middle East).

International trade in pork has risen significantly in recent years, as a result of the Uruguay Round Agreement, and the FAO expects trade to increase after 1998. The situation for many traditional exporters is changing. In major pork producing nations such as Denmark and the Netherlands, and elsewhere in the EU, producers are facing a future without the benefit of subsidies. Taiwan, which consumes only 25 percent of its production and depends heavily on trade, experienced an outbreak of FMD in 1997 that virtually removed its pork industry from the export market. The pork industries of the United States and Canada (and perhaps China) are expected to be the major exporters in the years ahead. International pork trade depends very much on two single markets, namely Japan and Russia. The recent economic crisis in those countries has had a strong effect on international pork prices.

Poultry

The poultry industry is the most integrated and global of the major meat industries and its growth has been the most consistent over the past two decades. As Table D indicates, many countries, particularly in the developing world, have witnessed strong growth in production in recent years. Poultry has been the major beneficiary of the trend away from beef consumption in developed nations. Industry growth is expected at about 5 percent per year, thanks in part to its relatively lower price compared with beef and other meats. US production alone is expected to increase by almost 20 percent between 1996 and 2000. The poultry industry has also responded best to the trend for a wider variety of parts brought on by modern lifestyle changes.

Between 1980 and 1995 world poultry trade grew by over 200 percent, by far the largest such growth of all meats. The poultry trade has become very diversified in terms of products, with different consumers worldwide demanding either boneless, breast meat, leg meat, dark or white meat, wings, feet, etc. Trade in whole birds therefore is declining, undercut by the competitive prices of parts; yet the overall effect is one of industry expansion. Global poultry trade is expected to continue expanding, fueled by dietary concerns and strong demand in Asia, Canada, Mexico, and many developing countries, while the economic crisis should limit exports to Russia temporarily.

Sheep meat

Demand growth for sheep meat in the OECD is expected to be limited by larger

supplies of competing meats. Australia and New Zealand are the major producers and together they dominate the world sheep meat trade. As Tables E shows, the largest single factor in the world sheep meat trade is New Zealand's exports to the EU. The Uruguay Round negotiations and bilateral negotiations between New Zealand and the EU raised the tariff quota amount slightly to 226,700 mt per year. Trade in sheep meat has declined since 1993 due to the instability in production brought on by drought in Australia, the withdrawal of subsidies in New Zealand, low wool prices, and other factors. Most other major producers—China, and countries in the Middle East, the EU and the CEEC—consume most of their domestic production.

World meat prices

World meat prices experienced a general upswing in the years since the conclusion of the Uruguay Round Agreement. However, because of the current economic crisis, higher prices for meat are doubtful in the near future. Actual pork prices are very low because of oversupply and the economic crisis.

The Global Perspective For Meat Trade, Post-Uruguay Round

The Uruguay Round Agriculture Agreement has had important effects on international trade for meat products. The pork trade has already seen greater than double-digit growth since the conclusion of the Agreement, and trade in beef and poultry products should expand by about 2 percent per annum (according to the FAO), primarily due to expanded market access in general. The major effects of the Agreement include increased access to beef markets in the United States, Japan, Korea and Canada, increased access to pork markets in Asia, and a reduction in export subsidies, partic-ularly by the EU.

Table F provides trade projections until 2004 for major meat importers and exporters. The Agreement is especially important for those countries for which trade accounts for over half of their meat production, such as Denmark, the Netherlands and New Zealand. The impact of the Agreement on the meat sector varies from country to country and from product to product within the sector itself.

Substantial Exporters

European Union export subsidies have had a significant impact on world meat trade for years. However, EU producers are faced with limits on export subsidies (The EU agreed in the Agreement to reduce by 2000 its subsidized exports of beef by 27 percent) and stocks are building up with no feasible outlets in sight. Despite the reductions, limited opportunities for other exporting countries will emerge in the short term as EU subsidies will continue at sizable levels (see Table G). The 1993 Andriessen Assurances between the EU and Australia prohibit EU beef exports with subsidies to certain key Asian countries,

excluding Japan. As a result, further reductions in internal price supports and industry rationalization seem inevitable. The EU's export subsidy commitments are also significant for pork (a drop from 541,000 tons to 443,500 tons for the EU-15) and poultry (from 434,500 tons to 286,000 tons). The European Commission's Agenda 2000 proposal suggests a decrease in internal price supports for beef of 30 percent (along with a 20 percent decrease for grains and a 10 percent decrease for milk).

The United States meat sector is expected to be a major beneficiary of the Agreement, with the US poultry sector particularly benefiting from growing foreign demand. US poultry exports are projected to increase 30-40 percent by 2005. A net exporter since 1995, the US pork trade is booming. While the EU's ban on hormone-treated beef still blocks US beef exports, US beef will benefit from greater access in Asia and elsewhere.

While neither **Australia and New Zealand** received improved access for beef into the European Union, the Agreement did confirm a high level of access to the US beef market and provide New Zealand with improved sheep meat access to the EU. In general, Pacific meat producers should see improved prices in the medium term due to tariff reductions and increased demand in Asia, and reductions in European export subsidies.

Due to trade liberalization and greater industry concentration, **Canada's** pork exports are growing and its beef exports are projected to increase by 60-90 percent by 2005. With tariff-free access under NAFTA, the US is the major export market for Canadian beef and pork exports (between 1995 and 1996, Canadian beef exports to the US alone jumped 33 percent to 507 million pounds). Other countries are also increasing their imports of Canadian meat. Since its domestic production is protected through its supply management system, Canada has been virtually absent from world markets as an exporter of poultry products.

Having eradicated foot and mouth disease, **Argentina, Uruguay and Chile's** beef and pork exports are now generally recognized as safe. As a result of a side agreement reached during the Uruguay Round, both Argentina and Uruguay were authorized to ship an additional 20,000 mt of beef under the US import quota system. Another impact of the Agreement on Argentine beef was to increase the "Hilton quota" (the high quality beef import quota the EU has allotted to Argentina, Australia, Uruguay, Brazil, New Zealand, the US and Canada). Under the "regionalization principle" of the Agreement, the southern states of **Brazil** which are FMD-free can enter international pork and beef markets. Brazil is also an emerging export competitor in poultry.

Until the late 1980s, people in **Central and Eastern Europe** consumed much more meat than they do now, a sign of the past heavy subsidization of the livestock sector. Since the transition to market economies began, production has contracted severely, especially in beef and pork. With consumers facing higher prices and lower real incomes, beef and pork

consumption also has declined sharply. A traditional meat exporter, the region's net exports have declined with the drop in production, and today it is a net importer of beef and veal. However, recent trends suggest production and consumption should improve, and while pork and poultry exports should recover, beef imports are likely to continue. The success of economic reforms, the duration of the global economic crisis, the rate of income growth, and the ability of the region's governments to sustain support for the livestock sector, will determine the rate of recovery in its meat trade.

Exempt from making GATT commitments, **China** should be accepted into the WTO in time for the next trade round and its entry will have a significant impact. Between 1980 and 1996, China's total meat output rose from 12.05 mmt to 59.15 mmt, and the sector continued to expand in 1997 as incomes and demand increased. China is now responsible for over 25 percent of world meat production. Between 1990 and 1996, poultry output grew from 3.4 mmt to 8.5 mmt, beef from 1.3 mmt to 3.9 mmt, and mutton from 1.1 mmt to 1.9 mmt. Pork output alone grew from 24 mmt to 44.3, mmt in that time
(although China remains an FMD-endemic country). The result is that today China is the single largest pork and sheep meat producing nation, the fourth largest beef producer and the second largest poultry producer. Exports should be affected by the growth in China's income and population and the increase in domestic consumer demand.

Substantial Importers

The tariffication of the **United States** Meat Import Law was one of the major market access improvements of the Uruguay Round Agreement. The import quotas for beef from Argentina, Uruguay, Australia and New Zealand were replaced with a tariff-rate quota with a quota amount of 656,621 mt and an above-quota tariff rate of 31.3 percent (to be reduced to 26.4 percent by the year 2000). Also, the quota for FMD-free beef from Argentina and Uruguay was raised an additional 20,000 mt. US beef and pork imports are projected to rise 6-10 percent by 2005, while the country keeps out most poultry imports for safety and inspection-related reasons and has retained its safeguard tariff on mutton.

The **European Union's** market access commitments are concentrated in pork and poultry, with a small additional beef quota granted at a low tariff rate. The EU applied the required average 36 percent tariff cut almost uniformly. It established a 75,000 mt quota for pork imports and opened a tariff-rate quota for poultry that will grow to 29,000 mt by the year 2000, although no increase in poultry imports is expected. A WTO panel in 1997 ruled against the EU ban on hormone-treated beef and the EU is expected to provide alternative compensation while maintaining the ban. The EU will also maintain for now
the various quota arrangements it has in place with the countries of Central and Eastern European and the African, Caribbean and Pacific (ACP) countries.

In 1988, **Japan** tariffied its import provisions. Since then, low import prices and the fact the country increased its market access and lowered its tariffs by 50 percent in the Agreement,

have doubled beef import volumes (despite an outbreak of E. coli bacteria in 1996). Under WTO rules, Japan was granted emergency safeguard measures allowing it to increase its beef tariffs if imports exceeded the previous year's imports by more than 17 percent. Japan reduced its tariffs on chicken meat, and tariffied its pork regime (imports are expected to increase by over $300 million by 2005). Nevertheless, for most sectors,
Japan applied the minimum 15 percent tariff reduction and, as a result, relatively high tariffs will continue to apply until the end of the Agreement's implementation period.

As part of its GATT commitments, **Canada** eliminated its meat import law restrictions on beef and veal imports from countries outside of North America, adopting a tariff-rate quota of 72,000 mt. Canada tariffied its import quotas for beef, veal and poultry and agreed to reduce its tariffs by 30 percent for beef and 15 percent for other meats. Nevertheless, relatively high tariffs will still apply at the end of the implementation
period. Little change is expected in Canada's pork regime. A NAFTA dispute panel in 1996 ruled that Canada's relatively higher tariff offers on poultry in the Uruguay Round were consistent with NAFTA and could therefore be legitimately maintained.

Because of NAFTA, **Mexico** is now a major destination for US meat exports. The Mexican import duty on beef was reduced under NAFTA, with the result that the US now supplies 97 percent of Mexico's beef imports. Mexico is expected to recover from its recent financial crisis over the next decade and, with rapid population growth and rising incomes, most meat imports should increase, especially from its NAFTA partners.

Rising incomes in the early 1990s in **South Korea** led to a boom in meat consumption, and beef consumption alone is expected to increase 60 percent by 2005. The country committed to raise its minimum access for beef to 321,000 mt by 2000, and remove all non-tariff barriers to imports of frozen pork and chicken by 1997. Korea also agreed to slash its tariffs for all meats by 2004 and to eliminate all non-tariff barriers for
all remaining meats by 2001, including state trading activities. The OECD predicts an increase in Korean beef imports over one hundred percent and pork imports of over 600 percent by 2003.

Opinions vary over whether **China's** domestic meat production will rise to meet the increased demand anticipated in the coming years. China restricts meat imports through sanitary and phytosanitary regulations and high tariffs for all meats. The country consumes about 50 percent of all pork consumed worldwide. Negotiations are underway for China to accede to the WTO. If it joins as a developed country it must accept all the obligations of a developed country in the WTO, including those relevant to agriculture. China, however, is pushing to join as a developing country, which would mean less
stringent commitments in agriculture and other sectors.

India has the second largest population in the world, yet the country hardly plays a role in international meat trade. The FAO estimates that between 1995 and 1997 Indian poultry

production increased about 10 percent (to 585,000 tons), pork production by almost 8 percent (to 439,000 tons), beef production by almost 2 percent (to 2,548,000 tons) and sheep and goat meat production by over 2 percent (to 663,000 tons). The majority of this production was consumed domestically.

Meat consumption in **the Commonwealth of Independent States** has declined significantly in recent years and little growth in demand is expected in the near future. With per capita incomes cut in half since 1989, Russian per capita consumption of beef and pork has declined by about 42 percent, and by 25 percent for poultry. Although the processing industry across the region has drastically deteriorated, production of all meats is expected to rebound in the next 5-10 years. When it comes, it will be a welcomed development since the financial crisis makes the region's level of meat imports uncertain in the short run.

The **Southern African** region is considered an emerging growth market for agricultural exports. With the political situation improving, prospects for economic growth and increases in disposable income are good, and meat consumption is expected to rise. However, due to water volume constraints, consumption of meat should overtake production and lead to a rise in imports in the region. The benefits many African countries have derived from the Lomé Convention are likely to eventually be discontinued, with imports of very low-priced beef from the EU probably replaced by poultry and other meats.

Non-Tariff Trade Barriers in Meat

Food safety concerns have always been a prominent factor in meat production and international trade. Sanitary arguments are often used as protectionism. More recently, the influence of other factors is increasing. One of them is the progress of biotechnology, which has met with resistance from consumers, particularly in Europe, where it has led to such measures as the hormone ban. There is also growing public concern about animal welfare and the environmental impact of meat production.

Consumer concerns and perceptions vary from country to country and from region to region. Setting standards and adopting legislation on a national, or EU, level in order to meet consumer concerns carries the risk of seriously hampering international trade. Although not a new problem, the situation has become more difficult to manage in recent years, as standard setting and legislation has spread beyond the traditional veterinary field. Several recent events highlight these developments.

Food Safety

European consumer confidence in food safety has been severely shaken by the finding that **bovine spongiform encephalopathy** may be transmissible to humans. BSE has been observed in cattle since the mid-1980s, yet little is known about its root cause. In March 1996,

the British Health Secretary announced he had evidence that BSE could be transferred to humans (in the form of the fatal Creutzfeld-Jacob disease), sparking a panic that resulted in the European Union imposing a ban on exports of British beef. The announcement sent a shock wave through consumers, wreaking havoc on the EU meat trade. Overall, more than 1.3 million cattle had been killed by June, 1997. In the British case alone, more than 600,000 cattle over the age of 30 months were killed, at significant cost. The aim of the slaughter policy is to eradicate the disease, but it is also driven by a desire to reestablish consumer confidence in beef.

Beef consumption in the EU fell 6.4 percent in 1996 because of the BSE crisis, and then recovered 3.1 percent in 1997. While its market share may recover, the secondary effects of the BSE scare on the beef industry may be more lasting than its impact on consumption. The climate in Europe has changed: consumer concerns are being given higher priority and public authorities are more reluctant to take risks. In order to alleviate consumer concerns over BSE, the EU has adopted a labeling system which, by using an animal registration and identification system for cattle, should let consumers know the origin of the meat they are buying. This system—still optional for Member States, although it will become compulsory in 2000—will not only hamper deliveries within the EU, but will also affect EU meat imports. A decision by the European Commission came into effect on January 1, 1998, banning the use of so-called BSE risk material in animal feed, as well as in pharmaceuticals and cosmetics.

Long-standing concerns about food contamination through **salmonella** and **E. coli bacteria** also remain. A 1996 outbreak of E. coli bacteria in several parts of the Japanese food supply resulted in several deaths and sickened nearly 9,000 people. While the exact origin of the bacteria was not determined, Japanese consumer confidence in all meats declined, and Japanese demand for US, Canadian, Australian and other beef suffered. In August, 1997, an outbreak of E. coli in the US sparked a recall of 25 million pounds of US beef and led US Agriculture Secretary Dan Glickman to ask the US Congress for more power to regulate food safety. The US Food and Drug Administration is setting up a nation-wide early-warning system to better detect food-borne disease outbreaks.

Bacteriological diseases such as salmonella and E. coli can enter meat through processing or preparation, in either the store or home. The proper cooking of meat products is usually sufficient to provide protection against such bacteria. Additional private and public sector funding for research into salmonella, E. coli and other meat-infecting bacteria is essential in order to eradicate them from the food chain. Until then, the outbreak of such bacteria will continue to effect trade relations between nations.

The recent failure of the US and EU to agree on mutual recognition of veterinary rules is evidence of how intractable veterinary problems can be, even between partners with similar histories and traditions. The inability of the US and EU to agree on practices for poultry, and the EU ban on the use of hormones as a growth promoter in cattle, are further examples of how difficult veterinary and related animal production issues can be.

The **hormone ban** was the first indication of how in Europe food safety concerns mingle with skepticism of technology and the preference for "natural" products. The EU has maintained a ten-year ban on beef treated with growth hormones and milk produced from such beef, citing consumer concerns over food safety. The ban has prevented the US beef industry (which uses hormones) from fully using the high quality beef tariff quota and, more importantly, from exporting beef offal to the EU. The US beef industry claims to have lost $100-200 million annually as a result. The US meat industry's contention that hormone usage is safe was bolstered by a July 1995 Codex Alimentarius Commission decision which set maximum residue levels for growth hormones currently used by US cattle producers, essentially affirming their safety. It was also supported by two WTO rulings in 1997 which declared the ban inconsistent with the SPS Agreement of the WTO.

Against this background of growing pressure to restrict meat trade using regulations which are presumed to guarantee food safety, the agreement reached in the Uruguay Round on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) is a remarkable achievement. The **SPS Agreement** is important as it requires that food safety risk assessments be based on generally accepted science, adherence to internationally agreed standards, consistency of legislation, and the concept of equivalency. However, the effectiveness of the SPS Agreement depends on the compliance of the Contracting Parties in the WTO and on the spirit in which governments
apply sanitary measures under the Agreement.

One concern is the current weakening of the consensus that science should serve as the basis for international rules on food safety standards. In some parts of the world, particularly in Europe, the reliability of science is being questioned. Many consumers today are mistrustful of scientists, whose pronouncements they often deem unreliable. Even the assurances of supposedly independent regulatory agencies are often met with
skepticism. It is true that consumers' lack of knowledge of the facts is profound. Yet if these same consumers are to be sufficiently educated on the facts of food safety, a large scale effort will be called for, perhaps involving the revision of national education curriculum in many countries. This situation is threatening to undermine the international trading system.

Greater harmonization of food safety standards must be achieved if these trade problems are to be avoided. An improved understanding of countries' existing technical requirements would facilitate the harmonization of national standards in the next trade round. Countries should therefore agree to provide greater transparency and greater access to information about their existing food safety requirements and be willing to
interpret their requirements when clarification is sought.

Where harmonization is not possible, the WTO established the principle of "equivalency" as the means of judging the acceptability of exports. Equivalency is central to any efforts to establish a workable international system for ensuring food safety across borders.

Under this principle, countries are allowed to export products using higher standards than those prevailing elsewhere. However, if they do so, they are not entitled to penalize other exporters for attempting to export products which, in that country's view, are safe and tradable, but which are produced using lower level standards, provided they are in conformity with internationally agreed standards.

It remains to be seen whether the principle of equivalency as currently laid out in the Agreement can be suitably applied to the commercial release of genetically modified organisms (GMOs), an important matter for the SPS Agreement that will be discussed later. There are significant gaps in the perception of acceptability of this technology between developed and developing countries, not to mention among different developed countries themselves. One solution to this procedural problem would be mutual recognition agreements (MRAs). Signatories to an MRA on GMOs would agree to accept each others' approval systems. This is a sensible way of avoiding trade disruptions and disputes arising from unintended procedural conflicts. But it underlines the need for greater harmonization of regulatory approval processes for standards.

Furthermore, the SPS Agreement stipulates that countries which can provide the necessary evidence that regions within their territories are pest or disease free can export products from such regions even though the entire country perhaps does not meet the standard required. However, this concept of "regionalism" can be controversial when questions arise about the reliability or acceptability of countries' internal verification procedures.

Despite the shortcomings in the way it is being applied, it is too soon to consider revising the SPS Agreement. Time is needed to determine how effective the Agreement can be. The next WTO round can nevertheless help by providing more specific guidelines regarding food safety regulations and by enhancing the dispute settlement procedures for problems relating to food safety.

In addition to regulatory measures, providing consumers with the means to make informed choices is equally important to efforts to address food safety concerns. Strengthened **labeling requirements** can help address consumer concerns, particularly those regarding the use of biotechnology in meat production. However, since negative labels can create unfair biases, positive labeling is required. Labels should be product-based and not process-based. Enhanced inspection procedures that allow for verification of labeling accuracy are also required. An effective labeling system will have to comply with the requirements of the WTO Agreement on Technical Barriers to Trade. As labeling requirements are likely to grow, consideration should be given to a code of conduct on labeling within the WTO, including mutual recognition of such labels.

In order to maximize the benefits of a positive, product-based and verifiable labeling system, acceptable levels of food risk must first be determined in each country. With existing information and inspection methodologies often insufficient, the key to achieving such coherent

policies is cooperation and open consultation between government, the agricultural industry, researchers and consumer organizations. Countries should consider setting up truly independent food agencies which, by virtue of being expert and impartial, could offer public reassurances and ensure that food safety legislation is scientifically justified. Such agencies would benefit from working in consul-tation with all sections of the food chain, including consumers.

Greater cooperation is also required in the global scientific community regarding food safety concerns. The public should be made aware of the limits of scientific knowledge that is advanced through on-going research and authorities should not refrain from informing the public about dissenting scientific advice and the reasons why particular options are chosen. Lastly, a comprehensive global assessment of the shortcomings
and requirements related to food safety information is important to efforts to reassure consumers and an imperative to which resources must be devoted in the coming years.

Animal Health

Veterinary legislation which protects animal health is as important for meat production and trade as its provisions to protect human health. Historically, foot and mouth disease has had the strongest impact on international meat trade. While Chile, Argentina and Uruguay have succeeded in eradicating FMD, many countries and regions of Latin America, and in Eastern Europe and Asia, are still not considered FMD-free. This
situation has led to a higher-priced Pacific beef market which is FMD-free and a lower-priced Atlantic market among countries which are not FMD-free. Progress in eradicating FMD in Eastern Europe and Latin America raises the possibility of merging these two markets in the foreseeable future. Countries with FMD must heat-treat and package their beef in airtight containers before they can export to FMD-free regions. This limits the potential for export growth by FMD-endemic countries such as Brazil, China, and some countries of the former Soviet Union.

Biotechnology

While biotechnology is not yet a major factor in meat production, genetically modified organisms (GMOs) are becoming more important in animal feed. Genetically modified maize and soya are already on the market and their market share is expected to grow rapidly. A heated debate is underway in the EU—where resistance to the use of biotechnology in food and feed production is strongest—over whether meat from animals which have been fed GMOs should be labeled. The EU in 1997 introduced the so-called "Novel Food Regulation," which lays down rules for the authorization and marketing of
foods containing GMOs. Under this regulation, products containing GMOs must be labeled if they are significantly different from traditional products without GMOs. As a conse-quence, there is no requirement to label meat from animals fed with feed containing GMOs. But pressure on producers to label such meats may grow, and producers should inform consumers accordingly. It is not in the interest of producers to refuse labeling if consumers want it. For

now, in Europe, at least, labeling is the only way to contain public distrust of biotechnology.

To establish a tradition of labeling would be useful in order to prepare for the day when genetically modified meat will be on the shelf. To this end, governments should be entitled to prescribe labeling conditions for the meat products to be sold on their territory. However, it is important that any agreed upon labeling system require that labels make only positive claims and not negative claims. A negative claim (e.g., "This product is GMO-free") has the characteristics of a warning label and could be interpreted as carrying a judgment about quality and safety. On the other hand, a positive claim (e.g., "This product contains GMOs") constitutes a notification of the consumer, who then can make an informed choice.

Animal Welfare

Concerns about animal welfare are spreading among some high income countries, where it is having a growing impact on meat production and trade. Sensitivity about animal welfare is the highest again in Europe, and there it is having the most impact on legislation. Since the 1980s, the EU has had legislation in place regarding minimum requirements for calves, egg-laying hens and pigs. In 1996, transport methods for calves and sheep led to massive protests in the UK against EU requirements. The EU passed legislation that came into effect January 1, 1998 requiring that live animals not be transported more than eight hours without rest, food and water.

The EU directive which also applies to live animals from developing countries, has become another cause of friction for trade in meat products. Those producers which must comply with the stricter, more costly rules required will be tempted to ask for protection or support as compensation. Such moves should be resisted. Instead, the solution should be sought in agreements on minimum standards achieved through international consultation. Until now, international agreements on animal welfare requirements have been lacking, although where measures affect international trade, such as rules on transporting live animals, the WTO Agreement on Technical Barriers to Trade applies. Before any minimum international standards for animal welfare can be ascertained, research must be done in order to determine what constitutes "welfare" in the livestock industry. While a comprehensive review of consumer views on what constitutes animal welfare will be difficult, as they vary from country to country, it will nevertheless be necessary before any international agreement can be reached.

The Environment

As production levels increase worldwide, the livestock industry is posing significant challenges to the environment. The two sources of pollution in the livestock industry that are receiving the most attention are phosphorous and nitrogen, chemicals which become pollutants when they exist in livestock waste. Research has shown several highly effective means of reducing at the source nitrogen and phosphorous pollution from intensive livestock production. Appropriate ration formulation and nutritional management can

produce reductions in nitrogen and slurry excretion by as much as 30 percent, and the use of supplementary in-feed enzymes which target indigestible feeds have achieved significant results in reducing phosphorous pollution. Farming methods which alternate crops and livestock are means of de-intensification and offer one way of lessening the damage caused by intensified farming practices. The transfer of these technologies and methods more extensively throughout the industry will help.

Environmental concerns related to meat production are especially important in Western Europe, where high population density creates conflicts with agricultural production. Livestock pollution problems are also important in other geographical areas. For instance, the relocation and rapid consolidation of hog breeding units taking place in the US is partly due to environmental requirements. Also, moratoria on new meat production facilities with the potential for environmental damage are being enforced in New Zealand and other countries and regions.

In other regions, such as South America, Eastern Europe, the former Soviet Union and parts of Africa and Asia, the environment is hardly a point of discussion, or sufficient financial resources are lacking to tackle the problem. However, in many areas of the developing world, population and income growth are boosting the demand for livestock products, putting pressure on the sector to intensify, thereby raising the threat of environmental damage.

Differences in environmental standards between nations, as well as differences in the ability of the environment in different regions to cope with the by-products of agricultural production, have an impact on the cost of production. Again, relief should not be sought in additional protection. Rather, efforts should be made first to research and then design local legislation or licensing of livestock enterprises using production or economic incentives to persuade farmers to adopt practices that minimize waste output in order to achieve nationally agreed upon levels for minimum environmental standards. Environmental standards should not be imposed internationally. Instead, an interna-tionally agreed upon code of good management practice on manure production and handling drawn up by representatives from national agricultural industries could be a useful reference guide for the formation of national legislation in this area. Finally, since the cost of pollution control will ultimately be born by the consumer, support to compensate producers for the cost of environmental protection could be a solution.

Issues For The Next WTO Round

In the Uruguay Round, the Contracting Parties of the WTO committed themselves (under Article XX of the Agreement on Agriculture) to continue the process of substantial and progressive reduction of agricultural support and protection in the next round of multilateral trade negotiations. The next round represents an important opportunity to continue reform of national and international meat policies. The resulting liber-alization

could help improve consumer diets and export earnings in many developing countries, offsetting somewhat the effects of the current economic crisis on these countries.

Tariff duties are declining during the implementation period of the Uruguay Round, although many tariffs in the developed world have remained largely prohibitive. As support prices come down, tariff levels should come down by at least as much.
Also, the schedules agreed in the Uruguay Round will lead to reductions in budgetary expenditures for export subsidies and to diminishing volumes of subsidized exports. The IPC believes that further reform of meat policies negotiated in the next WTO round should have the following basic features:

1. The reduction or elimination of trade-distorting domestic support measures, including payments which have been exempt from reduction commitments;

2. In cases where the meat sector is potentially competitive, support prices may be replaced by decoupled income support to farmers. However, such support should only be temporary. More permanent income support measures may be allowed for social reasons (e.g., preventing depopulation) or environmental reasons in less-favored areas (e.g., mountainous and/or climatically disfavored regions).

3. Increased market access through substantial reductions in tariffs and the elimination of tariff peaks;

4. Higher minimum access levels;

5. The tightening of the rules for managing tariff rate quotas, and the elimination of tariff rate quotas wherever possible;

6. The further reduction or elimination of export subsidies; and

7. The tightening of rules regarding state trading enterprises, including the elimination of STE monopolies.

All of these issues should be addressed in the next multilateral trade negotiation, where attention also should be turned to addressing the variety of previously discussed non-tariff barriers that are becoming more important as trade is less hampered by traditional barriers. In particular, the next round should provide more specific guidelines regarding food safety regulations, while enhancing the dispute settlement procedures for problems relating to food safety. Beyond that however it is premature to envisage a re-negotiation of the SPS Agreement at this early date, as this Agreement is only now being tested in the daily practice of WTO members (the dispute brought by the US and Canada against the European Union for its hormone ban is a case in point). One problem may be the impact the Agreement has on the

work of international standards organiza-tions.
By relying on their international guidelines or recommendations, the Agreement has a major impact on these organizations as well. In order to avoid the risk that these new responsibilities might paralyze the work of the standard organizations, means should be found to distinguish between the standards, guidelines or recommendations suitable to be used as binding by the WTO and those which are not fit for legal use.

Greater transparency regarding individual national meat policy regimes and regulations should also receive more attention in the next round. This would facilitate efforts to better harmonize national standards. For the WTO's established "equivalency" method to be useful in judging exports, there must be effective notification procedures, mutual trust (including inspection exchange programs, and mutual recognition of national testing programs). Greater transparency is therefore key to efforts to improve harmonization of standards across borders.

The treatment of GMOs is a matter for the SPS Agreement. It remains to be seen whether the principle of equivalency can be suitably applied in this case, not only for veterinary or phytosanitary requirements, but also for the commercial release of GMOs. There are significant gaps between the sanitary and phytosanitary enforcement capacities of developed and developing countries, as well as the different systems existing among developed countries.

Labeling requirements are governed by the WTO Agreement on Technical Barriers to Trade. Given its wide scope of application, it would be useful to negotiate a separate agreement on the matter of labeling in the next round.

Environmental concerns and social issues should be addressed by allowing support to producers to compensate for costs incurred, although efforts to develop internationally agreed upon codes to provide for minimum standards should be done outside of the WTO, perhaps through consultation among national agricultural associations. The purpose of such efforts should be to prevent these concerns from being used as justifi-cations for import barriers or export subsidies.

Conclusions and Recommendations

The consumer taste for meat products in developed countries is undergoing major shifts due to factors such as changing lifestyles, household size, health perceptions and, importantly, safety concerns. Meanwhile, many developing and industrializing countries are seeing their disposable income levels rise, and their demand for better-balanced diets that include meat is increasing accordingly. Demand for meat should continue to be strong in the long run. It is expected that the economic crisis will only temporarily hamper meat demand and trade. As a result of these changes, meat is an industry experiencing dynamic change and growth, with technical advances and industry-wide restructuring giving a significant boost to production, especially in countries

like the United States, Canada, Brazil, Argentina, Uruguay and China.

In order to allow these growth trends to continue, and to respond to the changing needs of consumers worldwide, the rules that have been, and will be, established on the national level and by the international trading system must be improved in many areas. In particular, the next World Trade Organization round is an important opportunity to facilitate the continued growth in the meat industry. Trade opportunities represent one of the strongest stimulants to economic growth. There are several meat exporting developing countries which could benefit significantly from greater trade liberalization. Expanded trade through liberalization can offset the unequal global distri-bution of land resources which has hindered the development of the meat industries—particularly of beef and sheep meat—in many developing countries in Asia and elsewhere, thereby helping respond to the trend for growing demand. Providing export opportunities for efficient producers in developing countries will not only fuel economic development but, by increasing their foreign exchange reserves, will improve their buying power, making improved diets possible. On the other hand, there is a risk of retarding the economic growth of many developing countries without the greater choice that freer trade provides. The WTO negotiations, therefore, represent a chance to improve the world meat system, particularly to the benefit of the developing world.

For such goals to be achieved, meat sector policies should be reformed along the lines laid out in this paper, including increased market access, reduced export subsidies and domestic supports, the elimination of import quotas and tariffs, etc. Such reforms should be a central part of the next trade round, although they can be allowed to take effect gradually, in order to ease the transition for farmers and producers.

Many non-tariff barriers to trade must also be addressed in the next trade round, and foremost among them perhaps is food safety. Generally accepted methods of scientific assessment of risk must form the basis of resolution for food safety disputes, and food safety regulations that are not based on scientific methods should not be allowed to be used as non-tariff barriers to trade. In addition, countries must provide greater trans-parency and access to information about their existing food safety requirements, as the improved understanding this would generate would facilitate the harmonization of national standards, an important objective of the next round. Where harmonization is not possible, nations should accept equivalency as the measure for judging exports, thereby providing for the acceptability of different standard levels. Mutual recognition agreements (MRAs) are a more formalized means of providing for acceptance of different, but essentially equivalent, national standards, and would be especially useful in disputes over GMOs. The next round should also provide enhanced guidelines for food safety regulations and improve the dispute settlement procedures for food safety-related problems.

Providing consumers with the means to make more informed choices about the meat products they purchase and consume is essential to the resolution of food safety problems. An

improved labeling system would go a long way towards addressing the consumer's right to access of all the information they desire. Strengthened labeling requirements can help address consumer concerns, particularly those regarding the use of biotechnology in meat production. Governments should be allowed to enforce labeling conditions for the meat products sold on their territory. However, any reforms instituted must involve labels that are positive, verifiable and product-based. Before such a labeling system could be effective, efforts must be made to determine the acceptable levels of food risk in each country. Consideration should be given to a code of conduct on labeling within the WTO, including mutual recognition of labels.

Cooperative efforts on the international level are equally important to a concerted effort to reassure consumers about food safety. Open consultation between government, the agricultural industry, researchers and consumer organizations is necessary. Moreover, greater cooperation is required in the global scientific community regarding food safety concerns, and food industry scientists should work in consultation with all sections of the food chain, including consumers. Lastly, a comprehensive assessment on a global scale of the short-comings and requirements related to food safety information should receive more attention and resources in the years ahead.

Regulations in response to public concerns over issues such as animal welfare, the environment, or production processes in meat, that are not based on scientific methods, also should not be allowed to take the form of non-tariff barriers to trade. More research is needed to determine what livestock-related environmental conditions are acceptable to consumers and what, in their opinion, constitutes animal welfare. Then efforts can be made to reach agreement among nations on minimum standards in these areas so as to reduce the risk of trade disputes. Governments should be allowed to provide direct support to producers who face increased costs as a result of any new regulations.

The challenge for national and international policy makers is therefore two-fold. They must first fashion domestic food policies and regulatory systems that encourage the production and distribution of safe, high quality meat products. Second, they must work to modify the rules of the international trading system to liberalize the meat trade to the extent that it brings about realistic solutions for all producers, but especially in the developing world. The task for producers and manufacturers is to monitor and analyze the changing parameters which define consumer acceptability for new meat products, and to establish a cooperative link with political regulatory authorities, for example through more generous use of the results of their product research, in order to render as objective and scientific as possible the necessary food safety regulations.

Since many food safety issues arise from panic generated by the media and/or by careless government action, policy makers would better serve the public by responsibly communicating and explaining the best available information, scientific and otherwise, and by providing an educational framework that permits consumer groups and consumers themselves to grasp and make use of new scientific information. Where public opinion calls for legislation

which goes beyond what the scientific consensus would regard as strictly necessary, governments have a responsibility through education and guidance to avoid the trade and other problems which can occur when decisions are not based on rigorous scientific findings. In the end, governments must accept the responsibility of objectively educating the wider public about the facts with regards to food safety throughout the entire food chain. It is in the long term interest of the meat industry that governments take the steps necessary to maintain consumer confidence in meat products.

The global meat supply is in general reliable and safe. Where there are problems, they can be addressed through effective leadership and cooperation on the national and international levels in the ways discussed in this paper. If such approaches are taken, the trade in safe, high-quality meat and meat products should continue to grow, to the benefit of consumers and producers worldwide.

Table A. World Meat Consumption

	Aggregate			Per Caput.		
	1995	1996 (Prelim.)	1997 (Forec.)	1995	1965 (Prelim.)	1997 (Forec.)
	Million tons			kg/year		
World Total	209.0	217.1	226.9	36.6	37.4	38.5
poultry meat	55.5	58.4	62.6	9.7	10.1	10.6
pig meat	82.7	86.5	91.0	14.5	14.9	15.4
bovine meat	56.3	57.0	57.6	9.9	9.8	9.8
sheep meat & goat meat	10.7	11.1	11.5	1.9	1.9	2.0
other meat	3.9	4.0	4.1	0.7	0.7	0.7
Developing Countries	110.1	118.2	127.8	24.8	26.2	27.8
poultry meat	26.4	30.7	33.8	6.4	6.8	7.9
pig meat	47.0	51.1	56.0	10.6	11.3	12.2
bovine meat	25.2	26.2	27.4	5.7	5.8	5.9
sheep meat & goat meat	7.3	7.8	8.2	1.6	1.7	1.8
other meat	2.3	2.4	2.4	0.5	0.5	0.5
Developed Countries	98.9	98.9	89.1	77.0	76.7	76.5
poultry meat	27.1	27.7	26.8	21.1	21.5	22.2
pig meat	35.7	35.4	35.0	27.8	27.5	27.0
bovine meat	31.2	30.8	30.4	24.3	23.9	23.5
sheep meat & goat meat	3.4	3.3	3.3	2.6	2.6	2.5
other meat	1.6	1.6	1.7	1.2	1.3	1.3

Source: FAO.

Table B. Beef Consumption, Production and Trade

Consumption (volumes in kg cwe per head)

	1989	1994	1995	1996	1997
Uruguay	58.0	67.8	63.5	63.8	59.9
Argentina	66.4	62.1	55.0	54.4	54.2
USA	45.0	44.1	44.6	44.7	44.1
Australia	41.9	38.1	33.9	39.0	39.3
Brazil	33.6	35.3	38.3	39.6	37.0
New Zealand	35.4	28.0	33.1	37.9	36.7
Canada	37.7	33.2	32.7	33.4	32.1
Mexico	26.3	20.7	20.2	19.5	19.5
EU	22.5	20.4	20.1	18.4	19.0
East Europe/FSU	27.0	20.1	17.8	16.9	15.8
Japan	8.8	12.2	12.8	11.9	11.9
South Korea	4.4	7.8	8.8	9.4	10.2

Production (volumes in '000 t cwe)

	1989	1994	1995	1996	1997
USA	10,599	11,164	11,555	11,726	11,693
EU	7,468	7,382	7,973	7,951	7,912
Brazil	4,937	5,725	6,077	6,372	6,054
East Europe/FSU	11,186	7,934	6,854	6,412	5,958
China	1,072	3,300	4,154	4,946	5,400
India	2,224	2,496	2,508	2,528	2,542
Argentina	2,491	2,495	2,419	2,371	2,390
Australia	1,573	1,809	1,710	1,729	1,874
Mexico	2,140	1,810	1,850	1,800	1,800
Canada	979	900	928	1,016	1,062
New Zealand	511	572	631	639	647
Japan	**548**	**602**	**601**	**555**	**538**

Trade (volumes in '000 t cwe)

	1989	1994	1995	1996	1997
Imports					
EU	2,318	2,629	2,580	2,167	2,240
US	1,207	1,461	1,552	1,414	1,484
Japan	593	921	1,014	950	960
East Europe/FSU	429	859	789	891	871
Canada	171	323	283	256	268
South Korea	64	162	194	191	212
Brazil	188	114	223	189	190
Exports					
EU	2,856	3,506	3,492	2,936	2,944
Australia	872	1,130	1,104	1,028	1,140
US	527	808	858	904	998
Canada	250	524	569	683	668
New Zealand	393	474	499	500	514
Argentina	360	412	585	499	496
East Europe/FSU	174	549	397	353	324
Brazil	336	378	280	280	285

Uruguay	191	182	173	214	276
China/Hong Kong	100	90	90	79	83

Source: International Meat Secretariat, World Meat Facts Book, 1998.

Table C. Pork Consumption, Production and Trade

Consumption (volumes in kg cwe per head)

	1989	1994	1995	1996	1997
EU	39.1	40.6	40.6	41.3	40.7
Taiwan	38.4	41.3	40.2	41.7	40.1
China	18.7	26.3	29.5	32.3	35.1
Canada	29.7	32.8	32.2	30.5	31.1
US	29.7	31.0	30.7	28.8	28.3
Australia	17.5	19.1	19.4	18.4	18.8
East Europe/FSU	32.2	20.4	19.8	19.8	18.7
Japan	16.7	16.8	16.8	17.0	17.0
South Korea	11.0	14.3	15.0	15.4	15.5
Mexico	11.3	10.6	10.5	9.6	9.5

Production (volumes in '000 t cwe)

	1989	1994	1995	1996	1997
China	21,228	32,048	36,484	40,375	44,450
EU	13,057	15,131	16,016	16,375	16,213
USA	7,163	8,026	8,096	7,766	7,748
East Europe/FSU	13,697	7,856	7,603	7,609	7,181
Brazil	1,125	1,350	1,540	1,650	1,700
Japan	1,594	1,390	1,322	1,266	1,300
Canada	1,084	1,236	1,281	1,240	1,277
Taiwan	917	1,204	1,233	1,269	1,025
Vietnam	714	958	1,007	1,052	--
Mexico	910	900	954	890	895
Philippines	757	715	754	860	890
South Korea	485	621	639	692	699

Trade (volumes in '000 t cwe)

	1989	1994	1995	1996	1997
Imports					
EU	2,784	3,494	3,709	3,860	3,551
East Europe/FSU	262	690	721	877	884
Japan	500	713	841	955	702
US	490	400	417	463	463
Exports					
EU	3,113	4,492	4,625	4,785	4,560
Canada	354	371	498	560	560
US	119	241	350	416	416
East Europe/FSU	349	139	163	348	361
China/Hong Kong	169	143	190	175	149

Taiwan	144	331	381	388	69

Source: International Meat Secretariat, World Meat Facts Book, 1998.

Table D. Poultry Consumption, Production and Trade

Consumption (volumes in kg cwe per head)

	1989	1994	1995	1996	1997
US	39.1	44.8	44.0	45.8	46.6
Canada	--	30.6	30.2	30.4	30.7
Australia	--	27.3	27.1	27.0	27.0
Brazil	13.9	20.3	24.6	23.5	25.4
Chile	8.3	20.6	--	--	24.3
Argentina	11.9	21.8	22.8	22.0	22.6
EU	18.3	19.9	19.8	20.5	20.8
Mexico	11.7	18.2	18.3	18.5	19.3
Venezuela	18.4	17.2	18.8	17.0	17.1
Japan	14.5	14.8	15.3	15.5	15.3
Thailand	7.5	9.1	9.3	10.4	11.2
East Europe/FSU	11.9	7.9	8.7	9.4	9.7

Production (volumes in '000 t cwe)

	1989	1994	1995	1996	1997
US	10,127	13,340	13,929	14,684	15,162
China	2,820	7,550	9,347	10,650	11,500
EU	6,240	7,749	8,032	8,374	8,657
Brazil	2,233	3,615	4,275	4,302	4,773
East Europe/FSU	5,389	2,859	2,703	2,669	2,539
Mexico	918	1,443	1,554	1,590	1,680
Japan	1,432	1,260	1,256	1,249	1,228
Indonesia	442	758	876	947	1,024
Thailand	553	731	747	805	882
Canada	703	863	871	886	--
Argentina	379	695	770	746	775
Malaysia	322	684	701	701	--

Trade (volumes in '000 t cwe)

	1989	1994	1995	1996	1997
Imports					
EU	801	1,469	1,613	1,746	1,768
East Europe/FSU	210	633	1,226	1,476	1,743
China/Hong Kong	150	500	660	683	714
Japan	365	577	697	711	698
Middle East/N. Africa	376	575	578	583	--
Exports					
EU	1,144	1,988	2,304	2,465	2,609
US	389	1,420	1,928	2,208	2,343
Brazil	254	495	436	582	701
China/Hong Kong	40	270	320	356	356
East Europe/FSU	276	118	232	196	189
Thailand	131	187	183	169	187

Source: International Meat Secretariat, World Meat Facts Book, 1998.

Table E. Sheep Meat Consumption, Production and Trade

Consumption (volumes in kg cwe per head)

	1989	1994	1995	1996	1997
New Zealand	35.3	23.9	23.2	32.3	30.6
Australia	22.7	20.3	15.6	16.6	17.6
Uruguay	15.8	15.6	12.6	15.7	14.2
Middle East/N. Africa	5.3	4.8	4.7	4.6	4.6
EU	4.1	3.9	3.7	3.7	3.6
South Africa	3.3	3.1	2.5	2.6	2.0
East Europe/FSU	2.9	2.5	2.3	2.0	1.8

Production (volumes in '000 t cwe)

	1989	1994	1995	1996	1997
China	962	1,609	2,015	2,400	2,600
Middle East/N. Africa	1,389	1,464	1,507	1,516	1,554
EU	1,125	1,143	1,152	1,143	1,106
East Europe/FSU	1,257	1,043	925	837	727
Australia	581	635	552	568	597
New Zealand	537	514	535	528	537

Trade (volumes in '000 t cwe)

	1989	1994	1995	1996	1997
Imports					
EU	452	505	534	544	523
Middle East/N. Africa	374	334	388	354	323
Japan	76	52	55	47	44
Exports					
New Zealand	446	421	441	435	398
Australia	302	424	387	383	383
EU	213	310	325	315	295
East Europe/FSU	55	46	30	43	49

Source: International Meat Secretariat, World Meat Facts Book, 1998.

Table F. Recent and Projected Global Meat Trade

(thousand metric tons)

	1994	2000	2004
Beef and Veal			
Net Exporters			
Australia	1,155	1,181	1,199
Brazil	380	443	475
European Union	719	368	388
Argentina	289	189	260
Eastern Europe	22	-26	33
Net Importers			
Japan	829	955	980
United States	368	99	321
Mexico	105	137	120
Fmr Soviet Union	155	133	78
Canada	55	76	76
Pork			
Net Exporters			
European Union	650	361	442
China	175	291	383
Canada	295	332	352
Taiwan	293	294	300
Eastern Europe	39	93	111
Net Importers			
Japan	657	879	1,039
Fmr Soviet Union	-3	238	212
Mexico	54	70	99
United States	99	-439	-453
Poultry (broiler meat)			
Net Exporters			
United States	1,275	1,613	1,915
Brazil	460	464	479
European Union	556	384	318
Thailand	160	233	282
Eastern Europe	-32	25	79
Net Importers			
Japan	425	606	856
Hong Kong	219	295	354
Mexico	241	311	324
Saudia Arabia	249	293	311
Fmr Soviet Union	394	299	279
Canada	46	91	110
Sheepmeat (& goat)			
Net Exporters			
New Zealand	335	454*	449*
Australia	253	279*	311*
Net Importers			
European Union	218	245*	245*
Japan	47	81*	84*
Saudia Arabia	38	--	--

United States	23	30*	30*

Source: The World Bank.
* Source: OECD, 1998.

Table G. Meat Export Subsidy Commitments

US	1986-1990	1995	2000
(volume -- tons)			
beef	22,265	21,486	17,589
poultry	35,436	34,196	27,994
pork	500	483	395
(value -- thousandUS$)			
beef	35,660	35,520	22,822
poultry	22,742	21,377	14,555
pork	777	730	497

EU	1986-1990	1995	2000
(volume – 000 tons)			
beef	1,034	1,137	822
poultry	368	435	286
pork	509	542	444
(value -- million Ecus)			
beef	1,968	1,901	1,259
poultry	143	138	92
pork	183	172	117

Source: OECD, 1998.

International Policy Council Members (1998)

Lord Plumb of Coleshill
Chairman, International Policy Council
Member and Former President of European Parliament (United Kingdom)

Allen Andreas
Chief Executive Officer, Archer Daniels Midland Company (United States)

Bernard Auxenfans
Chief Operating Officer & Executive Vice-President, Agricultural Sector and President, Europe/Africa – Global Team, Monsanto Life Sciences Company (France)

Brian Chamberlin
Chairman and Managing Director, Euroa Farms, Ltd. Former Agriculture Counselor, New Zealand High Commission in London and Special Agricultural Trade Envoy (New Zealand)

Csába Csáki
Senior Agricultural Advisor, Europe and Central Division, Agricultural Industry and Finance, The World Bank. Professor, Budapest University of Economic Sciences (Hungary)

Pedro de Camargo Neto
Vice President and Former President, Sociedade Rural Brasileira (Brazil)

Aart de Zeeuw
Former Chairman, Agricultural Negotiations Committee, GATT
(The Netherlands)

Martial Genthon
Corporate Head of Agriculture, Nestlé
Former General Manager Agrosuisse LTDA Brazil (Switzerland)

Dale Hathaway
Former Undersecretary for International Affairs and Commodity Programs, USDA. Executive Director, National Center for Food and Agricultural Policy (United States)

Wilhelm Henrichsmeyer
Professor and Director, Institute for Economics and Agricultural Policy, University of Bonn (Germany)

Rob Johnson
Corporate Vice President, Public Affairs, Cargill, Inc., and member of the Council on Foreign Relations and the Agricultural Policy Advisory Committee (United States)

Tim Josling
Professor, Institute for International Studies, Stanford University (United States)

Ke Bingsheng
Vice President of China Agricultural University (China)

Dean Kleckner
President, American Farm Bureau Federation (United States)

Georges-Pierre Malpel
Director General, Unigrains (France)

Donald McGauchie
President, National Farmers' Federation (Australia)

Liberty Mhlanga
Former General Manager and Director, Agricultural and Rural Development Authority (Zimbabwe)

Rolf Moehler
Former Deputy Director General, European Commission, DG VI (Germany)

Joachim Rathke
Former Group Managing Director, N.V. Vandemoortele International, Belgium (Germany)

Alberto Santos de Hoyos
Federal Senator from Nuevo León State and Chairman of Empresas Santos (Mexico)

Hiroshi Shiraiwa
Director and Deputy General Manager, Mitsui & Co. (Japan)

Jiro Shiwaku
President, Livestock Industry Promotion Council (Japan)

I. P. Singh
President, National Institute of Agriculture (India)

Rob Tazelaar
Chairman and President, Products Boards for Livestock, Meat and Eggs. Former Member,

Parliament and European Commission DG VI (The Netherlands)

Bob Thompson
Sector Strategy and Policy Specialist, Rural Development Department (United States)

Ann Veneman
Secretary of the California Department of Agriculture. Former Deputy Secretary of the US Department of Agriculture (United States)

Claude Villain
Inspector General, Ministry of Finance (France)

Anthony Wylie
Director General, Fundación Chile (Chile)

Jorge Zorreguieta
Former Secretary of Agriculture. President, Argentine Sugar Producers Council (Argentina)

The Mission of the International Policy Council on Agriculture, Food and Trade

The International Policy Council on Agriculture, Food and Trade (IPC) is dedicated to developing and advocating policies that support an efficient and open global food and agricultural system—one that promotes the production and distribution of food supplies adequate to meet the needs of the world's growing population, while supporting sound environmental standards.

◊ ◊ ◊

Founded in 1987, the IPC is an independent group of 35 leaders in food and agriculture from over 20 developed and developing countries, including formerly centrally planned countries. Members are chosen to ensure the Council's credible and impartial approach, and include influential leaders with extensive experience in farming, agribusiness, government and academia. The IPC meets twice annually to develop policy recommendations to address the critical issues facing the world's agricultural system. It then conveys its recommendations directly to policymakers through its personal contacts and through a variety of papers and studies. The IPC also convenes task forces and holds conferences and seminars.