

Poultry and poultry products - risks for human health

Marketing

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INTRODUCTION

Since the 1990s, the production of poultry meat in low- and middle-income countries is increasing, with chicken meat accounting for 80 percent, and duck and goose meat production also increasing. China and Brazil, in particular, have emerged as major poultry meat producers. Meanwhile North American and European producers have lost their global market shares. Over the last 30 years, egg production has also increased enormously in East and Southeast Asia. In 2007, about 45 percent of the eggs consumed worldwide were produced in China (FAO, 2009).

INTERNATIONAL TRADE

In most countries, poultry production is mainly for domestic consumption. According to FAOSTAT, only about 12 percent of poultry meat and 2 percent of eggs were traded on the world market in 2007. However international trade is increasing. Brazil and the United States are the two largest exporters of poultry meat. Global trade in poultry meat and meat products involving processing is complex.

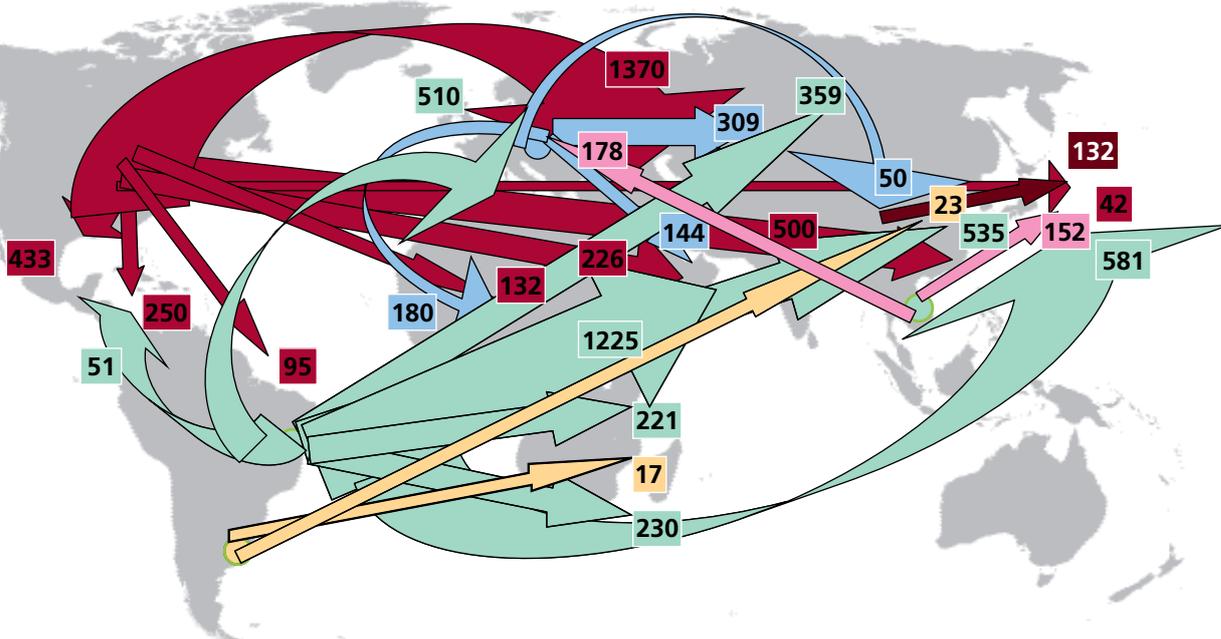
Most of the poultry meat available on the global market comes from large-scale specialized commercial poultry production systems. In low-income countries, imports of cheap low-quality cuts such as wings, lower legs, necks and giblets sold by the piece, make chicken meat more accessible to the average consumer. This coincides with changing eating habits in developed countries, where consumers tend to buy chicken breast and thigh meat and, to a lesser extent, drumsticks. Poultry meat products are usually exported frozen.

In many low-income countries, particularly those with tropical climates, trade in frozen food entails risks. It is not uncommon to see defrosted poultry meat displayed for sale on open market stalls without refrigeration, which presents a risk to human health. The smaller the pieces, the higher the risk of contamination, owing to the increased surface area. Carcasses or cut-up pieces must remain frozen throughout the marketing chain.

When the refrigeration chain is interrupted, infectious agents start to multiply on the meat. The consumption of contaminated meat can cause diseases, especially if the meat is not well cooked.

FIGURE 1

Poultry meat and meat product imports and exports 2008, including live birds ('000 tonnes carcass weight equivalent)



Source: Gira Meat Club.

¹ With contributions from Philippe Ankers, FAO



Frozen chicken pieces displayed at markets are a health risk for the population

Appropriate control of the refrigeration chain is therefore required, from port, to market, to consumer.

If other food, such as salad, comes into contact with raw contaminated poultry meat, it too can be contaminated and will be dangerous to health when eaten raw. Cross-contamination during food preparation is another important risk factor.

In countries where H5N1 highly pathogenic avian influenza (HPAI) is reported, poultry meat can be exported only as processed products (cooked, pasteurized) to avoid spread of the virus to other countries. In frozen poultry meat products Influenza viruses are not killed by refrigeration or freezing, but human cases of influenza H5N1 infection are mainly the results of direct contact with live birds (Swayne and Thomas, 2008).

Bacteria, such as *Salmonellae*, which cause Salmonellosis in people, also survive in frozen products, and can become harmful when they start multiplying after defrosting. Antimicrobial-resistant bacteria can also be disseminated through trade of poultry meat products.

INTERNATIONAL FOOD SAFETY STANDARDS

For World Trade Organization (WTO) member countries, the Sanitary and Phytosanitary (SPS) Agreement defines the basic rules for food safety and animal and plant health standards. It allows countries to set their own standards, but these must be based on science. The Codex Alimentarius is a collection of international food safety standards that have been adopted by the Codex Alimentarius Commission (the Codex), which was jointly set up by FAO and the World Health Organization (WHO). Under the SPS Agreement, the Codex is the relevant standard-setting organization for food safety. The Codex Alimentarius includes food safety standards related to poultry meat and eggs. Harmonizing application of the CODEX standards among countries is a challenge. Consumers' perceptions of the risk related to food consumption differ among countries, as do the availability of market information, the importance of risk factors at the farm level, and the standards for food processing and packaging technologies. The benefits of applying a specific food safety standard may exceed the costs in some countries, and various food safety risk control measures can achieve similar results. As risks for food safety vary among countries, the identification of

risk factors for each poultry product is a first step in risk control, as described in the CODEX.

LOCAL TRADE

In many low-income countries, local chickens are traditionally sold alive at live poultry markets (also called "wet markets"), where slaughtered birds or poultry meat can also be purchased. Live-bird markets are considered critical risk points for the spread of the H5N1 HPAI and other viruses. Authorities may decide to close these markets when there are outbreaks in the area, region or country. In the medium to long term, authorities will encourage the purchase of poultry meat that has gone through a certification process. Contact between people, especially children, and live poultry bought at the market should be discouraged.

OUTLOOK

Global demand for poultry and poultry products will continue to increase, owing to global population increase and growing per capita consumption. Trade will also go up, facilitated by improvements in transportation, infrastructure and marketing networks. These factors, and the rapidly changing regulations and rising standards for food safety in high-income countries, create both challenges and opportunities for low- and middle-income countries.

For many years, intensive poultry production units in high-income countries have approached risk management by focusing first on risk identification and then using Hazard Analysis Critical Control Points (HACCP) procedures. This approach is now adopted by producers in low- and middle-income exporting countries as well. The Codex committees provide advice on the introduction of such procedures. Regulatory agencies worldwide are also increasingly adopting the HACCP procedures as a foundation for new regulations to control microbial pathogens in food. Based on risk assessment, critical control points are identified in the production chain, and adjustments in the chain will ensure the quality of final products.

Governments and the private sector must join forces to improve capacity to react quickly to emerging food safety crises, thereby minimizing human illness and financial losses.

An increasing number of low- and middle-income countries are exporting poultry and poultry products, and the adoption of international standards for food safety is essential. Brazil's remarka-



Live-bird market in Asia

ble development as a major chicken meat exporter was facilitated by the adoption of strict food safety regulations, and provides an example for neighbouring countries.

Poultry export control systems are self-financing. Certification is mandatory in this profitable business. The private sector usually pays for these controls, but government official services and a product board are sometimes involved in carrying them out. Public health and veterinary services must be involved, ideally together, in controlling the entire marketing system within the country, from large-scale integrated operations, down to live-bird markets and small slaughter shops, where they exist.

The refrigeration chain for poultry meat is a key factor in food safety, and must be guaranteed by a system in which certificates are required to permit the sale of products. An example of this is the implementation of minimum hygiene criteria for street sellers. In small-scale production systems, only the government can undertake such control, for economic reasons. It requires support from strong legislation and enforcement to prevent false competition.

The protection of human health during H5N1 HPAI outbreaks is also a responsibility of government. Government has all the centralized information about the spread of the disease, and can – under certain circumstances – prohibit the operation of live-bird markets and indicate other safe sources of poultry meat.

FURTHER READING

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