

## Contamination of animal products: prevention and risks for public health

A S Ahl and P Suttmoller (coordinators)

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This volume, 16(2) of the *Scientific and Technical Reviews* of the OIE, is a remarkable achievement by its 2 coordinators and 105 authors. It is a stimulating contribution to modern veterinary science. It highlights the need for continuous adjustments to conventional animal services in the production, harvesting, trading, safety and wholesomeness of animal-derived foods for human consumption, and promotes a global perspective of the vital importance of safe food of animal origin and efforts to prevent biological and non-biological (physical, chemical) pathogenic agents from reaching the consumer. Changes in international trading rules related to food safety assurance are explained. These place pressure on developed and developing countries alike to review and revise their existing approaches to sanitary/phytosanitary food standards to avoid conflict with international trade agreements and maintain credibility with consumers and the food industry. Finally, it underlines the growing importance of veterinary public health and veterinary epidemiology to risk assessment, risk management, risk communication and to international and regional trade in livestock products.

The preface emphasises that this book is devoted to the examination of hazards that consumption and use of animal products pose to human health. Food safety hazards related to products of domestic (traditional) livestock and non-domestic (non-traditional, aquatic and game) species are explored. The book refers to risk assessment, management and communication, and generally reflects an international perspective on food safety issues. By directing attention to the very close link between animal and human diseases, it emphasises the equally close links between environmental,

animal and human health.

Detailed data on the broad aspects mentioned above are reviewed in 40 papers (36 in English, 1 in Spanish and 3 in French, each with an informative summary in each of the 3 languages), 31 graphs, 13 diagrams, 94 tables and 3 coloured illustrations. The information is presented in 10 groups of reports on the following subjects:

**Introduction to public health risks from food and products of animal origin:** 4 reports on *Codex Alimentarius* food quality and safety standards for international trade; risk and the food-safety chain from the point of view of animal health, public health and the environment; the role of epidemiology in public health and longterm sequelae to foodborne disease.

**Concepts for prevention of public health risks:** 2 reports on hazard analysis and critical control-point systems in the United States Department of Agriculture regulatory policy, and hazard analysis and critical control-point systems applied to public health risks from the point of view of sea food.

**Beef:** 6 reports reviewing risks and prevention of contamination of feedlot cattle; hygienic conditions of beef production; *Escherichia coli* 0157:H7 in beef; risks and prevention of contamination of beef carcasses during slaughtering; possible microbiological hazards and risks associated with meat from dairy cows.

**Meat from small ruminants:** 3 reports on public health hazards in Europe, Australia and the Caribbean.

**Milk and dairy products:** 4 reports on the history and progress of milk pasteurisation and safety; pathogenic microorganisms, risks and prevention of contamination in milk and dairy products; public health and safety of milk and milk products from sheep and goats.

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**Pork and pork products:** 4 reports on pre-harvest food safety and slaughter as they affect public health; parasites associated with pork and pork products; producer and regional perspectives of public health, pork and pork products.

**Poultry products:** 2 reports on strategies to control *Salmonella* and *Campylobacter* in raw poultry products, and on epidemiology and control of egg-associated *S. enteritidis* in the USA.

**Meat and products from other species:** 9 reports on public health risks associated with the consumption of horse meat, cervid production, farmed game, wild game meat, wild and feral swine, bee products, utilisation of wildlife products in certain regions in Africa, and ostrich and crocodile meat.

**Fish, mollusks and crustaceans:** 5 reports on public health risks associated with seafood in the USA and Canada, aquaculture and parasites of fish, and a South American perspective on the risk of transmitting cholera through fishery products.

**Non-biological contaminants in food of animal origin:** 3 reports on contaminants of non-biological origin in food from animals, problems associated with drug residues in beef from feeds and therapy, and therapeutic antibiotics in animal feeds and antibiotic resistance.

Viewed broadly, this publication makes it clear that food safety depends on a variety of factors.

The supply of animal-derived food that is safe for human consumption requires concerted intersectorial and multidisciplinary efforts by government, industry, trade, research, and consumer organisations. The ultimate goal is to protect the consumer from pathogenic agents. To achieve this, each role-player in the pre-harvesting, harvesting and post-harvesting links of the food chain, from production to consumption, must ensure the safety of food appropriately. That protection must be consistent,

systematic, transparent, based on sound scientific evidence and derived from the use of recognised and acceptable risk analysis, management and communication procedures, good management practices (GMPs) and hazard analysis and critical control-point (HACCP) food-safety assurance systems.

For developing countries where, as in South Africa, government budgets for the support and development of agricultural livestock production are shrinking rapidly, this publication is of interest for several reasons:

1. It serves as a timely reminder to governments of the acknowledged fact that the health of food-producing livestock and the safety of food derived from it must remain a priority of state veterinary services, livestock producers and others who contribute to farming.
2. State and private animal and human health services must be well organised and coordinated to ensure high food-safety standards throughout the food chain from farm production to household consumption.
3. High general awareness and standards of food safety increase opportunities for progress in rural development, agricultural production, primary animal and human health care and regional and international trade, whereas the opposite is true for food that endangers human health.

It is evident that the promotion of safe food of animal origin for all is an international priority. This publication is a rich source of information for veterinarians and other public health workers responsible for ensuring that food of animal origin poses no hazard to human health.

**W H Giesecke**

*Directorate of Veterinary Services  
Department of Agriculture  
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