Food Safety

Consumer, Trade, and Regulation Issues

CARD

Edited by
Zuhui Huang
Kevin Z. Chen
Minjun Shi

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Preface

This book is the product of an international symposium sharing the same title as the book: “Food Safety: Consumer, Trade, and Regulation Issues” held in Hangzhou, China in October 10 and 11, 2003. Collected in this book, readers can find manuscripts of most of the talks given at the symposium as well as five excellent papers that were submitted but did not get a chance to be circulated among the participants while during the symposium due to the tight schedule. For these five papers, we felt obligated not to let them be buried on our shelves as well.

Introduction Overview

Food Safety: It's Business of All

—Summarization of the International Symposium on Food Safety: Consumer, Trade, and Regulation Issues

The Center for Agricultural and Rural Development of Zhejiang University

An International Symposium on Food Safety: Consumer, Trade, and Regulation Issues organized by the Center for Agricultural and Rural Development (CARD) of Zhejiang University, the Department of Rural Economy of the University of Alberta, Canada, the Institute of Agriculture and Forestry of the University of Tsukuba, Japan, and co-sponsored by the Journal of Chinese Rural Economy, the Canadian International Development Agency (CIDA), Tang Yongqian Discipline Construction and Development Fund of Zhejiang University, was grandly held in Hangzhou on 10 and 11, October, 2003. Over 120 agricultural economists and government officials from China, U.S.A., Canada, Japan, UK, Australia, Austria, Netherlands had a profound symposium on consumers' awareness of and requirements for food safety issues, governmental management systems of food safety in various countries and their helpful insights into China, the construction and exploration of modern mechanism of food safety management, food safety issues and friction issues of agricultural products trade and etc from both theoretical and practical perspectives. The symposium had received over 60 excellent academic papers on six aspects which included the management and legislation of food safety in various countries, international trade issues concerning food safety, consumers' response to the issues of food safety and nutrition, consumers' response to GM food, GM organism, international trade and food safety regulations. The main academic viewpoints of scholars and experts at this international symposium can be summarized in six aspects as follows:

1. Management and Legislation of Food Safety in Various Countries

The management and legislation of food safety in various countries is one of focus at this symposium. The countries concerned include China, Canada, Japan and member countries of European Union.

As to the management and legislation of food safety in China, Yongmao Ye from Zhejiang Entry and Exit Inspection and Quarantine Bureau recommends that management system and operating mechanism should be reformed, legislation should be strengthened and effective national real-time supervising network should be established. Production of safe food is the important basis for the establishment of management system of food quality and safety. Professor Wanjiang Yang from

Zhejiang University has a case study of 11 safe foods produced by 11 agricultural enterprises in Jiaxing in the Yangtze River delta of China. He points out that the key to the improvement of economic profit of safe food production is to strengthen the scientific research on the safe food production and gain support from the local government. Local government should play important roles in the investment and reform of safe food production enterprises, quality inspection and examination, establishment of standard safe food markets and establishment of subsidy system of safe food producers. On the basis of the study of the existed problems in the current food safety management system, Xiaofeng Zhao from Northwest Sci-tech University of Agriculture and Forestry think it is necessary to conduct reforms in five aspects, namely strengthening the enactment of concerned laws, improving food safety and management system, quickening the construction of market system, assuring the food safety with produce logistics, popularizing the information of food safety. He Qian and etc. from Jiangnan University point out that there are still problems in the production, processing, circulation, nutrition and sanitation control of agriculture food in China. For example, there are inadequate coordination among functional departments, insufficient fund support, incomplete technical teams and etc. Therefore, the full cooperation among governments at all levels is important. Tong Yang from the University of New Castle puts forward the theory of "double-layer pyramid", which will facilitate the implementation of HACCP system in China. He points out that the scientific and flexible application of HACCP system to the food safety issues is necessary for the assurance of people's life safety, maintenance of social stability, expansion of food export, improvement of international status of China. With the reference to the developed countries' advanced experience in vegetable quality and safety management, Jiehong Zhou, Zuhui Huang and etc. from Zhejiang University put forward measures including changing production and operation modes, promoting standardized production and strengthening technical study and popularizing. Leng Yu from Shanghai Jiaotong University designs the framework of Shanghai's food safety system and suggests conducting united supervision, establishing emergency system for food safety issues, and etc. Zhengfang Zhou from Remin University of China points out that the basic components of national food control system should include goals, actions and modules. Xiuping Chen from Zhejiang Institute of Science and Technology and Felicia Kow from Australia College of Maritime study the bottlenecks of green food system in China and effective solutions to remove them. Weidong Li and etc. from North Jiaotong University point out that as a systematic project, food safety management should be advanced by coordinative operation of structural systems, establishment of legal systems, preventive measures, technical approaches, information services and promotion.

Canada has done a good job in its food safety, which has gained attention in the world. In this symposium, some participants report the food safety management and legislation in Canada. Christine Hansen from CFIA introduces Canadian food safety management system including CFIA goals, duties, systems, organization

structure, management approaches and etc. He also makes a detailed illustration of CFIA's strategies in the food safety such as supervising and analyzing threats to food safety, developing food examining and supervising science, identifying emergent incidents of food safety and responding to them, evaluating food safety and applying labels by examining and approving, undertaking the duties of compulsory implementation, releasing information to public and educating, etc. Since an integrated production and sales system will make the consumers in all areas contact the polluted food, Kim Whitehead from the University of Alberta points out that the implementation of farm food safety plans can reduce the risks caused by unsafe food from farms and assure the supply of high-quality and safe food to processors and consumers. When the first mad cow in Canada was identified on May 20, 2003, the trade of beef and livestock were stopped immediately. Canadian government' policies on it have gained wide attention from all over the world. James Unterschultz, Jill E. Hobbs and Mel Lerohl from the University of Alberta evaluate the policies and decisions made by Canadian government and enterprises on the basis of estimating mad cow's potential influence on Canadian beef industry and beef trade. If Canada wants to restore its status in the world beef trade, food safety policies such as establishing cow breeding files, butchering and supervising systems should be adopted. They also warn Canadian beef enterprises should realize their risks caused by over reliance on American beef enterprises.

Japanese government has been facing more and more exported fresh vegetables from China since 1990s. During April 23 to November 8, 2001, Japanese government took provisional safeguard measures for three products. To avoid the trade disputes caused by the provisional safeguard measures, China and Japan achieved an agreement on the trade of three products in December of the same year. Meanwhile, Japanese government, vegetable producers and concerned organizations such as agricultural cooperations and professional retailers are committed to producing more competitive local vegetables. Based on the competition of agricultural products between China and Japan, Lily Y. Kiminami from Niigata University, Yuichi Mizouchi and Akira Kiminami from the University of Tokyo conduct an investigation of two producing areas (Iwai and Akatsuka) of welsh onion. They point out that it is necessary to implement proper market strategies, conduct structural reform of vegetable production and establish brands for vegetable producers to assure their profits. As to the argument on the pesticide residue of China's exported vegetables to Japan, Minjun Shi from the University of Tsukuba makes an evaluation of Japanese standards of pesticide residue in exported vegetables by analyzing its sanitation and quarantine system for exported agricultural products, especially its standards for pesticide residue. His study is a good reference to maintain and expand China's export of vegetables to Japan. He thinks whether Japan's food sanitation quarantine measures and pesticide residue standards are green barriers or not should be judged by the following aspects: First, are Japan's pesticide residue standards severer than

international ones? Second, if Japan's pesticide residue standards are severer than international ones or those in other countries, whether Japan's methods to analyze the pesticide residue toxicity follow international practice or not should be determined. China should know the development of Japan's pesticide residue standards and find solutions as soon as possible to avoid unnecessary trade disputes. When committed to the export of agricultural products, China should also provide safer and healthier food to the domestic consumers.

As a member of EU, the Netherlands' conditions and legislation of food safety have gained wide attention from the whole world. The Food Law of EU is evolved from the common agricultural policy (CAP), which was made on the basis of Roman Treaty of1958 are aimed at improving European agricultural production level and ensure the safe supply of agricultural products after WW II. In recent years, the inadequately supplied agricultural products of EU has become surplus. The issue of food quality and safety, rather than the supply of food, has become the main concern of governments. Supplying safe food to EU consumers and reconstructing their confidence in European food enterprises is the most important issue at present, which is also the drive for the evolution of European Food Law. The current EU food policies have turned their orientation from production in 1960s to public health in the 21st century. Such a change has also been coordinated in EU member countries. A case in point is the food safety system of the Netherlands. Xiaoyong Zhang from Wageningen University puts forward that the evolution of food safety systems in EU and the Netherlands can provide a beneficial reference to China. The food safety system of the Netherlands is centralized and authoritative. China should especially be committed to the regulation of the organizations and behaviors to conduct risk evaluation and management. Besides, with the reference to EU, the release of risk information is also important. The whole society and consumers have rights to know the safety degrees of foods they eat and what kind of information source is reliable.

2. Trade Issues Concerning Food Safety

With the improvement of agricultural production level, the short supply of food all over the world has been relieved to a certain degree. Meanwhile, the food safety issues in the international trade of agricultural products have gained wide attention. On the excuse of the standards of quality, sanitation and technique, the developed countries set various technical trade barriers, which result in the frequent occurrence of trade disputes concerning food safety. The trade issues concerning food safety are also a hot topic in this symposium. Professor Guoqiang Cheng from the Development Research Center of the State Council points out that the technical barriers to the export of Chinese agricultural products can be removed by improving legislation, establishing standards and systems of agricultural products, setting up trade unions, associations and intermediary organizations for the export of agricultural products. These measures will make the labor-intensive products with comparative advantages have competitive force and more export

volume. Fangwei Wu from Shanghai University of Finance and Economics believes that after the access to WTO, the trade disputes of agricultural products between China and other countries will become fierce. Some countries will adopt market barriers and technical barriers in turn to prevent Chinese agricultural products entering their markets. After China's access to WTO, the lowering tariff barrier results in the increase in the export of agricultural products. However, influenced by the technical barriers, the export trade is facing fiercer resistance. The residue of pesticide and animal medicine has become a hot issue. The quality of agricultural products needs improving. Qing Liu from Beijing Physical and Chemical Analyzing and Testing Center thinks that the technical barriers expose the gap of technology, economy, legislation and consumers' awareness between China and the developed countries. This is a warning to the food safety in China. With the development of scientific technology and the improvement of economic strength, China's food safety will follow the international practice.

Besides the study of international trade of agricultural product from the perspective of technical barrier, some scholars study how to turn disadvantages into advantages and realize the smooth export of agricultural products on the basis of real international competitive force of agricultural products in the developing countries. With the food quality and safety indexes such as quality, retailing prices, distance to the final consuming market, product planning and etc., Doctor J.B. Morrissey from Canada Agriculture Ministry analyzes the international competitiveness of livestock products from the pastures of Gansu, China. He points out that China should control the export of disease affected animals and vegetables with chemical residue to make the exporting standards meet the requirements of importing countries and assure food enterprises get licenses from importing enterprises. Based on the analysis of the opportunities and challenges of agriculture after China's access to WTO, Brian G. Bedard from Beijing Office of "Small Farmers Adapting to Global Markets Project " sponsored by Canada's Ministry of Agriculture and CIDA analyzes the relationship between food safety and the development of small farmers. He also points out that some important intervening measures are necessary to the sustainable development of culture so that small and medium farmers can get real chances to enter markets. Producers, processors, consumers and governments should establish new systems and adopt sustainable ways to build up people's confidence in the domestic food.

Consumers in the developed countries have higher awareness of and requirements for the food safety. Food safety has become a focus of international food trade. International market has a large demand for the organic food and organic food has become a mainstream in the international food trade. At present, the production of green (organic) food in China is on the rapid rise and facing great opportunities to export. Wenyan Xu from Northeast Forestry University points out that the study of international market and correct orientation of market is necessary to the expansion of the export of green (organic) food. Taking EU and Japan as examples, Yi Jiang from the Communist Party's School of Changzhou, Jiangsu,

points out that after China's access to WTO, China's exported agricultural products should be grown or raised in ecological environment. In doing so, the export of agricultural products will become smooth. China's bee products have met technical barriers in recent years. It results from both the internal cause that quality of bee products is not stable and the external cause that some countries use technical barriers to conduct trade protection. Weiguang Pan from Zhejiang University suggests strengthening the awareness of food safety, controlling quality standards of bee products, conducting diversified operation, quickening the development of bee industry on a large scale, utilizing settlement mechanism of WTO trade disputes, etc.

At present, international trade is often organized by connecting enterprises in the world with networks. Many people think the exploration of more efficient supply chain is a drive for the increase in the export of agricultural products in the developing countries. However, the developed countries have few studies of the supply chain of agricultural products in the developing countries. Supply chain appearing in the developing countries will have both positive and negative influences on all parties involved in the system of agricultural products, especially farmers and processors in the countryside. It is a challenge as well as an opportunity to the policies and strategies of economic development in the impoverished areas. A phenomenon needs concerning recently is that the percentage of China's vegetables exported to Japan is on the rise. These vegetables are grown in a vertical and integrated supply chain. Taking China's vegetables exported to Japan as an example, Kevin Z. Chen and etc. from University of Alberta, Canada, analyze the relationship among globalization, pesticide control and supply chain. Their analysis facilitates people's understanding of the development of China-Japan vegetable supply chain and its influences on the development of China's rural areas. They find that it facilitates the modernization of growing, processing and marketing of China's vegetables. The process of producing exported vegetables includes picking, transporting, selecting, cleaning, trimming and label attaching. These value-added activities provide many working opportunities to the rural areas. And the incomes of participants are considerable high. But it also brings about challenges. First, the resources from small farms are decreasing while those from large vertical and integrated farms are increasing; second, the force of farmers and that of consumers are asymmetric; third, the competition among suppliers are becoming fiercer. They also put forward some valuable suggestions. The assistance to small farmers should concentrate on the market access and not controlled by large and modernized retailers; governments' help with optimizing crop management, pesticide adoption and quality control will help small scale producers meet the requirements of Japanese market; organize farmers so that they will be more competitive in the whole industry chain.

Based on the results of analyzing Japanese people's cognition of the safety of exported rice and willingness to pay, Kentaro Yoshida and Hikaru H. Peterson from the University of Tsukuba put forward some suggestions to exporting

countries and Japanese government. They think exporting countries should make Japanese consumers trust the safety and good taste of imported rice and urge importing countries to lower their tariffs. And Japanese government should make domestic products have competition force over exported ones as far as the food safety and taste are concerned and try to introduce environment payment plans.

3. Consumers' Response to Food Safety and Nutrition

The increase in incomes and comparative surplus of food supply make people concerned more about the safety and nutrition of food they eat every day. Therefore, consumers' response to food safety and nutrition is another hot topic of the symposium. Gerhard K. Heilig from Austrian International Application System Analyzing Research Institute points out that quite a number of European consumers are not paying enough attention to food safety. Their first concern when buying food is still price rather than safety. Most consumers buy certain food according to their customs. Their behaviors of purchase have nothing to with the chemical components of the food. Meanwhile, the migration of population will make they eat some unhealthy and unclean food.

In recent years, urged by the mass media, the consumption of safe food has been put on the agenda. However, will consumers really make response to the food safety issues reported by media? Taking the consumption of meat as an example, Getu Hailu, Ellen Goddard, Cindy Wang and Jose Lomeli from the University of Alberta analyze the consumers' response to the concerned food information from four perspectives, i.e., food safety information, common ad promotion, brand ad promotion, restaurant ad promotion. They find that media's report of pork safety has an overflow effect on beef and a substitution effect on chicken respectively. All kinds of advertisements have an effect on the choice of meat consumption. Ad has an important derivative effect. The negative influences of accidental food safety incidents usually last for 2 to 4 years. The double panic caused by food safety issues needs common chicken ads four times that before the issues to maintain the original level of chicken consumption. Although the input in the ad is high, meat enterprises can relieve or eliminate the negative influence by this measure.

WTO agricultural negotiation will have been completed by the end of 2004. The expected diminishing tariff will cause the increase in the imported rice. If the price of the imported rice goes down, Japanese consumers will make response to it. Kentaro Yoshida and etc. from the University of Tsukuba think that consuming habit, taste and price of imported rice, negative or obscure attitude towards the safety of imported rice will affect consumers' willingness to pay. Consumers who have tasted the imported rice are more willing to pay for it.

The residue of heavy metals and pesticides in tea has gained more and more attention from consumers. Drinking safe tea has become an urgent requirement of all consumers. On the basis of the questionnaire on "consumers' evaluation of tea safety", Zuhui Huang and etc. from Zhejiang University point out that most consumers gain the information on safe tea through TV, newspapers and packaging.