

Food Safety Perspectives in Costa Rica: Export and Local Markets for Fresh Produce

G. KOPPER

National Center of Food Science and Technology (CITA), University of Costa Rica, San José, Costa Rica. Email: gkopper@cariari.ucr.ac.cr

Abstract

In Costa Rica, the agri-food sector is a major provider of jobs, income and export earnings. Since 1997, under pressure from food safety agencies in the United States of America, Costa Rica's main export market, the government and the country's large-scale export-oriented industries have been undergoing major efforts to ensure compliance with new, stricter standards on fresh produce. While these efforts have been crowned with success, much remains to be done to ensure a safer food supply to the local market. Most of these suppliers are small and medium-scale enterprises, who have weak management systems and often poor technologies, and who cannot afford the investments required to introduce sophisticated quality control systems such as full-scale HACCP. Nevertheless, three recent examples from the fresh produce sector show how collaborative efforts between the public sector, the university and the private sector can raise quality for the local market.

The Importance of Agriculture in the Costa Rican Economy

The agri-food sector is of great importance in Costa Rica, representing a quarter of the Gross National Product and employing 27% of the economically active population. Agriculture and fish products represented over half of Costa Rica's total exports in 1998. Banana and coffee are the major agricultural export products, but others include fresh fruits (pineapple, papaya, mango, watermelon), fruit pulps and juices, milk and dairy products, shrimp and tuna fish.

North America is the main destination for Costa Rica's exports. In 1998, 49,5% of the Costa Rican products reached this market, bringing in US\$ 2 713 million of export revenues. The European Union is the second most important market (21.5%) followed by Central America (12%) and Asia (7%).

Food Safety Assurance in the Agricultural Export Sector

The agricultural export sector has been under strong pressure since 1997, when USA agencies such as the FDA (Food and Drug Administration) and the FSIS (Food Safety Inspection Service) adopted various regulations for the safety assurance of fish, meat and poultry products, followed by fresh fruits and vegetables. Costa Rica demonstrated an adequate organization and coordination of different institutions involved in order to implement the needed legislation and technical assistance. The national inspection service was

declared equivalent by the sanitary authorities of the USA and the processing plants have worked hard to implement food safety assurance systems such as Good Manufacturing Practices (GMP) and Hazard Analysis and Critical Control Points (HACCP).

Most of the food safety assessment activities are directed toward export products, even though current national legislation requires the implementation of Good Agricultural Practices, Good Manufacturing Practices and HACCP systems in the entire food chain. Lack of resources for government enforcement and industry investment are the major barriers toward food safety achievement.

The investment required to implement safety assurance systems for agricultural products is very high, since it implies changes in processing plant buildings, new laboratory equipment, metrology systems, specialized training, consultancies, inspections, etc. Large enterprises typically invest more than US\$ 3 million in the course of upgrading for safety assurance, amounts only accessible for the export-oriented companies. The small and medium plants that supply the local markets have serious difficulties in implementing safety assurance systems because of these costs.

Public Institutions in Support of Food Safety

Public institutions in Costa Rica are going through intensive restructuring exercises, which are pushing them to increase collaboration and coordination in order to provide the adequate legislation, normalization and enforcement actions required for food safety assurance. The Government, responsible for national policies and strategies for food safety and health, must coordinate the activities of all actors (farmers, agro-processors, academics and consumers) to achieve common goals. To improve efficiency, some responsibilities may be delegated to accredited private organizations for inspections, quality certifications, and chemical and microbiological analysis. Training, research and technical development is currently carried out by universities and private organizations.

Table I illustrates the responsibilities and functions of different government institutions involved in food safety. There are, in addition, public institutions with specific activities regarding food safety controls, training, research and extension. Special mention should be made of the National Commission of Food Safety, headed by the Ministry of Health with representatives of all involved sectors: Ministry of Agriculture, Ministry of Economy, Ministry of Exports, Chamber of Agriculture, Chamber of Food Industry, Agriculture Research Center, National Center of Food Science and Technology, National Production Council, National Office of Norms and Measure Units, FAO (Food and Agriculture Organization of the United Nations), IICA (Inter American Institute of Agriculture Cooperation) and OIRSA (Organization for Regional Integration of Agricultural Health). This Commission is promoting food safety consciousness within the public and private sectors in Costa Rica and the Central American and Caribbean region.

Challenges to Improving Food Safety for the Local Market

It is important to highlight that the 93% of the food industries of Costa Rica are small and medium scale (< 99 employees), mainly family-owned with poor technological and management systems. For local production, industries are not yet convinced of the benefits of food safety standards, since local consumers are not aware of their right to safe foods and are mainly interested in purchasing items at the lowest possible price. A recent technological

evaluation of Costa Rican food industries revealed serious deficiencies in the implementation of Good Manufacturing Practices:

- 59% have no raw material specifications;
- 56% have no product codes;
- 82% do not evaluate product shelf life;
- 63% have no structured sanitation and cleaning program;
- 68% have no structured pest control program;
- 78% have no hand cleaning facilities for employees; and
- 67% do not control or treat water used for processing.

Some Recent Successes in the Fruit and Vegetables Sector

Under these conditions, the immediate implementation of food safety standards is very difficult. Nevertheless, good efforts are currently occurring which shows that food safety may be achieved once all actors work together toward it. Three examples demonstrate how an appropriate interaction between government, universities and the private sector yield positive results for safety assurance of fresh produce in our country.

The Ozone Treatment Program. This free and voluntary program is run by the National Agriculture Supply Center (CENADA). Farmers and wholesalers are instructed with guidelines on approved pesticides for each product, giving special emphasis to amounts and timing for pesticide application. Also they treat their products in ozone-water baths and their products are periodically analyzed for residue contents. When results are satisfactory, they are identified with a quality flag.

The Blue Seal Program. This program, also voluntary, is run by supermarkets and the Plant Sanitary Office of the Ministry of Agriculture. Pesticide evaluation and control of all fresh vegetables are carried out at all farms selling their produce to the supermarkets. The program involves strong training in Good Agricultural Practices, water supply control and in plant control. The Blue Seal certificate is given by the Plant Sanitary Office to the supermarkets as a recognition of their effort toward safer products.

The National Survey. The survey focuses on Good Agricultural Practices for fresh fruit and vegetable exporters and on Food Handling Practices by consumers. This survey is carried out by CITA (University of Costa Rica) and the University of Maryland. The questionnaire builds on an FDA survey, adapted to Costa Rican conditions, and has a sample of 400 farmers, 100 packagers and 1 200 households. The output will provide general information on risk consciousness.

Food safety is an intrinsic characteristic of food, its not an added value, so every one involved in the food sector should have a commitment to offer safe food to consumers.

Table I. Government institutions involved in food safety in Costa Rica

Institution	Responsibilities	Functions
Ministry of Health	Lead agency for health and food safety	Coordination among related institutions Laws and regulations Operating permits for processing plants Registration and control of food products Food-borne disease surveillance Nutritional surveillance
Ministry of Agriculture	Agricultural policies on animal and vegetable health and fresh produce safety	Sanitary and pesticide residue inspections Animal and plant health certifications Organic product certifications Pesticide registrations Quarantine control of incoming agricultural products Epidemiological surveillance of animal and plant pests and diseases Inspection of sanitary systems and food safety requirements of packaging and processing plants for fresh products
Ministry of Economy, Industry and Commerce	Lead agency for food standards, metrology, commercial quality and consumer rights	Presentation of food standards Verification of commercial quality and labeling of national and imported products Surveillance of legal metrology Development of consumer education programs
Ministry of Exports	Promote and facilitate Costa Rica's insertion into international markets	Open new markets for national agro-industrial products Trade negotiations for treaties and agreements Coordinate and lead national trade policy positions in international discussions
Ministry of Education	Develop educational programs on food safety for primary schools and high schools (academic and technical)	Home food handling programs Agro-processing programs Good Agricultural Practices programs