

The Role of the Codex Alimentarius in Determining International Standards for Pesticides and Food¹

F.M. Fishel²

The Codex Alimentarius was established in 1963 by the United Nations Food and Agriculture and World Health Organizations (FAO/WHO). It is a collection of internationally adopted food standards and related texts presented in a uniform manner. These food standards and related texts aim at protecting consumers' health and ensuring fair practices in the food trade. A principal concern of national governments is that food imported from other countries is safe and does not jeopardize the health of consumers or pose a threat to the health and safety of their animal and plant populations. Consequently, governments of importing countries have introduced mandatory laws and regulations to eliminate or minimize such threats. In the area of food, animal, and plant control, these measures could create barriers to international food trade. The publication of the Codex Alimentarius is intended to guide and promote the elaboration and establishment of definitions and requirements for foods to assist in their harmonization and in doing so to facilitate international trade.

The Codex Alimentarius includes standards for all the principal foods, whether processed, semi-processed, or raw, for distribution to the consumer. Materials for further processing into foods should be included to the extent necessary to achieve the purposes of the Codex Alimentarius as defined. The Codex Alimentarius includes provisions related to food hygiene, food additives, residues of pesticides and veterinary drugs, contaminants, labeling

and presentation, methods of analysis and sampling, and import and export inspection and certification.

With pesticides, Codex Alimentarius sets goals to achieve the following:

- establish maximum limits for pesticide residues in specific food items or in groups of food;
- establish maximum limits for pesticide residues in certain animal feeding stuffs moving in international trade where this is justified for reasons of protection of human health;
- prepare priority lists of pesticides for evaluation by the Joint FAO/WHO Meeting on Pesticide Residues (JMPR);
- consider methods of sampling and analysis for the determination of pesticide residues in food and feed;
- consider other matters in relation to the safety of food and feed containing pesticide residues; and
- establish maximum limits for environmental and industrial contaminants showing chemical or other similarity to pesticides in specific food items or groups of food.

The Codex Alimentarius Commission has been supported in its work by the now universally-accepted principle that people have the right to expect their food to

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2. F.M. Fishel, professor, Agronomy Department, and director, Pesticide Information Office; Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.

be safe, of good quality, and suitable for consumption. Food containing potentially harmful levels of pesticide residues can destroy the commercial credibility of suppliers, both nationally and internationally, and can adversely affect trade and consumer confidence. Creating standards that protect consumers, ensure fair practices in the sale of food, and facilitate trade is a process that involves specialists in numerous food-related scientific disciplines collaborating with consumers' organizations, production and processing industries, food control administrators, and traders.

Earlier Times of Food Safety Standardization

Evidence from the earliest historical writings indicates that governing authorities were concerned with standardization rules to protect consumers from dishonest practices in the sale of food. Assyrian tablets described the method used in determining the correct weights and measures for food grains, and Egyptian scrolls prescribed the labeling required for certain foods. In ancient Athens, beer and wines were inspected for purity and soundness, and the Romans had a well-organized state food control system to protect consumers from fraud or bad produce. In Europe during the Middle Ages, individual countries passed laws concerning the quality and safety of eggs, sausages, cheese, beer, wine, and bread. Some of these ancient statutes still exist today.

During the second half of the nineteenth century, food chemistry was recognized as a reputable discipline, and the determination of the "purity" of a food was based primarily on the chemical parameters of simple food composition. When harmful industrial chemicals were used to disguise the true color or nature of food, the concept of "adulteration" was extended to include the use of hazardous chemicals in food.

In the 1940s, rapid progress was made in food science and technology. With the advent of more sensitive analytical tools, knowledge about the nature of food, its quality, and associated health hazards grew quickly. At this time, as more information about food and related matters became available, there was greater consumer understanding. Previously, consumers' concerns had extended only as far as the "visibles"—underweight contents, size variations, misleading labeling, and poor quality. Now, the concerns included a fear of the "invisibles"—potential health hazards that could not be seen, smelled, or tasted, such as microorganisms, pesticide residues, environmental contaminants, and food additives.

Codex Alimentarius Standards

One example of the many standards established by the Codex Alimentaris is maximum residue limits (MRLs) for residues of pesticides in foods. The methods of analysis and sampling for pesticide residues in commodities are also considered as standards instituted by the Codex Alimentarius.

The group called "commodity standards" is by far the largest number of specific standards in the Codex Alimentarius. The major commodities include the following:

- cereals, legumes and derived products, including vegetable proteins
- fats and oils and related products
- fish and fishery products
- fresh fruits and vegetables
- processed and quick-frozen fruits and vegetables
- fruit juices
- meat and meat products, including soups and broths
- milk and milk products
- sugars, cocoa products and chocolate and other miscellaneous products

Most standards in the Codex Alimentarius take a number of years to develop. The Codex Alimentarius' Commission Secretariat arranges the preparation of proposed draft standards and circulates drafts to member governments for comment. Comments are considered by the subsidiary body allocated responsibility for the development of the proposed draft standard. Once the Commission adopts a standard, it is added to the Codex Alimentarius. At the present, standards for pesticide MRLs have been established for more than 200 active ingredients in practically every specific commodity within the major commodity groups listed above.

For many years, the Joint FAO/WHO Meetings on Pesticide Residues have produced internationally acclaimed data widely used by governments, industry, and research centers. The input from the FAO/WHO meetings into the work of the Codex Commission is of fundamental importance, and the publications resulting from those meetings and related activities are acclaimed international references.

The Future

Future activities in relation to the Codex Alimentarius will differ from previous activities. New challenges may occur because of scientific developments in fields related to food, changing attitudes of consumers, new approaches to food control, changing perceptions of government and food industry responsibilities, and changing food quality and safety concepts. These changes may present the need for new standards and new types of standards.

The application of biotechnology to food processing and production of raw food materials are currently under scrutiny by the Codex Alimentarius Commission. The Commission continually examines new concepts and systems associated with food safety and the protection of consumers against potential health hazards.

Additional Information

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