

LEGISLATION AND QUALITY CONTROL OF FOOD PRODUCTS

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Summary

This article concerns the legal provisions relating to food activities, namely the production, processing, and sale of food. Legal provisions are designed with specific ends in view: health protection and the promotion of fair dealing in food commodities.

These provisions have a particular form, most usually based on a general law covering all food products. They apply principles and methods of control corresponding to specific aspects of the matters regulated: food standards, use of additives, prevention of food contamination, labeling of food put on the market, and food control. Provisions such as these, themselves in a continual state of development, accordingly go to make up what lawyers understand to be “food law.”

Quality control activities are undertaken by private and government institutions and bodies to ensure that only products of guaranteed quality reach consumers, both domestic and international. Quality control includes mainly raw material control, process control, and finished product inspection. Food controls are carried out to evaluate processes, facilities, and controls used in the manufacture, storage, and distribution of foods, and to assess product quality and safety in the light of the inspection findings. To the customer, quality implies the safety, use, shelf life, and compliance of the product with the latest regulations, including labeling, that the product is defect free (no harmful microbes), and complete satisfaction. Quality management includes a conceptual understanding of quality technologies: statistical process control and internal quality audits.

1. Introduction

Since it is designed to provide for the policing of the food trade and the protection of the consumer, food law is concerned chiefly with relations between public authorities and private individuals or firms, and not between such private individuals and/or firms as such. Food law belongs, therefore, to public rather than private law. Considerations of private law—the common or civil law and/or commercial law—may equally arise where food is concerned. This is particularly so when questions of liability are involved, to the extent that they come under food law. With that proviso, it may be said that food law is a composite entity, linking it to one or more fields of public law.

Thus, when the rules of food law are disregarded, it entails the infliction of penalties, and it is then reasonable to look on such rules as forming a branch of criminal law. This, in fact, is the principle underlying the food laws of many countries. In France and Italy, for example, the basic enactment bears the title “Law on the prevention of fraudulent practices,” which indicates quite clearly the aim of these statutes. In Canada, the statutory control of foods is a federal responsibility for the precise reason that this control is deemed to come under criminal law.

Food law also has affinities with other sectors of public law because:

- (a) the powers of rule making and control conferred, and the enforcement procedures adopted, establish an affinity between food law and administrative law;
- (b) the essential aim of food law is the promotion of public health, and this gives it a character of social law; and
- (c) the effects of food law on the production and marketing of foods, and the direct influence which these activities have on the economic life of a country, permit one to consider it in a broad sense as forming part of economic law.

Given, then, the composite nature of food law, it would be pointless to assign it to a rigidly circumscribed branch of legal science, particularly since the form of the law will depend on the legislative traditions of each country concerned.

The general function of quality control is to maintain a product's fitness for use. Quality control can be simply defined as the maintenance of specified, finished product characteristics every time the product is manufactured. This implies efficient control of raw materials and of production processes. Meeting raw materials specifications, as well as process requirements, always results in the maintenance of product quality, and stops the product from being rejected owing to varying characteristics. The manufacturer's major concerns are: the prevention of product defects, improvement of product quality, provision of an effective quality control program, and development of an efficient quality monitoring system.

The steps towards quality control are the following:

- Good quality control of management
- Analysis of company status in the industry
- Program for quality control implementation

Quality control may be carried out either as an inspection function or as an integrated company activity. Each of these methods has been practiced, consciously or unconsciously, by many firms. The implications of each approach are discussed below.

2. Legislation on Food Manufacturing and Trade

2.1 The Context of Food Law

2.1.1 Social and Economic Development

The most characteristic feature of the present era is the spread and ever-gathering momentum of technology, affecting all aspects of modern life. In the economic sphere, one is witness to an unprecedented increase of output in all domains, particularly in food production. This increase is due to a concentration of technical and financial facilities; to its corollary, an expanding market; and finally to the development of means or distribution, bringing an ever greater volume of products to the growing number of consumers, offering a regular supply in a satisfactory state of preservation with an adequate margin of profit.

The social factors determining this development are not less significant than the purely economic ones. First, there is the overall growth in population, coupled with its increasing density, especially in the major urban centers; a higher standard of living in the industrialized countries; and evolution in the way of life. In industrialized countries, the chief components of this evolution are the wider range of available food items, the growing number of women working outside the home, the fact that the family nucleus has become less a unit of production than of consumption, the expansion in leisure activities and mass tourism, and a relentless conditioning of the consumer by modern advertising techniques. These have resulted in considerable change in needs and habits,

and consequently in food techniques, as may be seen in such developments as the standardization of products, the diffusion of prepackaged and precooked foods, and the wider resort to catering and eating establishments.

The problems generated by all these developments are many and varied, whether concerning problems of the organization of production and consumption on an intercontinental scale; problems of diversification, consequent upon the evolution in need; the almost unlimited possibilities of industrial processing of natural products; or problems of storage, preservation, transport, distribution, packaging, and presentation. In the development process, the most urgent need, of course, is for the expansion and diversification of staple food resources, balanced diets, food hygiene, and the preservation and dispatch of perishable food in good condition to the consumer. These problems are connected with the rapid rise in population and the lack of organization and of facilities for production, communication, and marketing.

2.1.2 Development in Science and Technology

The rapid development of the food sciences (chemistry, nutrition, toxicology, and food hygiene) has done much to provide humans with an understanding of what a given food contains and what effects it may have when ingested. The same is true for progress in food technology, whether it concerns the manufacture and industrial processing of food, or the identification of additives or contaminating substances in food. All these developments have by now assumed such proportions that it is essential for a country introducing regulations on food to have least a minimum of technical equipment and qualified staff to: a) determine what a food must contain for it to be considered sound and of reasonable quality, and what substances may be incorporated in it without risk to human health; and b) maintain adequate control over the composition and wholesomeness of food put on the market. One can readily appreciate that this problem is particularly acute in the developing countries, with the need for organized infrastructure.

2.1.3 International Implications of Food Law

The economic, social, and technical evolution just described has taken on worldwide dimensions as far as food production and consumption are concerned. An ever-larger proportion of foods is being consumed elsewhere than in the producing country or continent. Worldwide action is needed to secure the standardization of technical requirements and the harmonization of national laws whereby obstacles to international trade in food may be removed.

A major step has been taken in this direction with the United Nations Specialized Agencies and other international organizations. For example, the Joint Food and Agriculture Organization/World Health Organization (FAO/WHO) Codex Alimentarius Commission (CAC) has undertaken the huge task of building up a corpus of food standards of worldwide validity. Similar efforts are being made by groups of countries, or at regional levels (for example, the European Economic Community, the Council of Europe, and the Latin-American Food Code Council) and among nongovernmental organizations, such as the International Standards Organization (ISO).

Despite the many technical and legal difficulties engendered by this evolution, food law shows a marked trend toward some sort of international harmonization, to the benefit alike of producers, for the larger markets will open to them, and of consumers, with the wider variety of choices thus made available.

2.2 Basic Requirements

2.2.1 Protection

The primary purpose of food regulations is protection of the consumer. With the growing complexity of production and processing techniques, and the psychological conditioning of the consumer through advertising when goods are put on the market, it is necessary to provide the public with legal safeguards against anything that may adversely affect its health or abuse its trust. To be sure, fraud and food poisoning have always existed, and ancient history provides examples of severe penalties against food adulterators. But advances in technology have, at the same time, multiplied the possibilities of fraud and the means of detection and control.

The intervention of public authorities, however, must take account of actual developments in the life of the community, and not simply implement controls taken from abstract considerations. Today, more than ever, the public interest is the result of a host of socioeconomic factors which it would be dangerous to consider in isolation. Certain statutory provisions might, in the event, militate against the public interest, in a misguided attempt on the part of the legislator to protect that interest under too restricted an aspect, or with a desire for immediate effect that disregards the longer-term implications. Thus, to prohibit the use of certain chemical preservatives with a view to eliminating all risk to the health of the consumer, is in itself justified, but might have catastrophic consequences in certain countries or in certain circumstances, particularly when there is a serious lack of facilities for the preservation, storage, or transport of perishable foods, thereby placing the population's food supply in jeopardy.

It is pertinent to note, in this connection, that the protection afforded by law extends to the producer as well as to the consumer. The producer rightly expects to find a reasonable degree of certainty of protection in the law in return for the legal requirements placed upon him.

2.2.2 Efficacy

Certainly, if the safety of food is to be protected, such protection must be effective. The effectiveness of the rules of food law, however, is not always a foregone conclusion, because it depends upon technical or juridical factors.

At the technical level, effectiveness depends, in large measure, on the professional skill of staff employed, and on the scientific and technical equipment available for their use. It is, therefore, directly linked to the financial resources that can be set aside for the solution of the regulators and inspectors problems.

The example of the US demonstrates to what extent the concentration of available resources enables the development of technical rules governing diverse products. Other

countries, without such economic resources may, however, find a satisfactory answer to this problem, either by resorting to international cooperation based on more or less homogeneous regions, or may themselves adopt the technical standards worked out by other countries through international expert committees, or by nongovernmental bodies of scientists and technologists. Nevertheless, a country must have a minimum of technical facilities for enforcement purposes, without which the most perfect regulations will remain unenforceable.

At the juridical level, the effectiveness of regulations depends on the extent to which they can be applied to specific cases. Nothing is worse, socially and psychologically, than the existence of statutory provisions that are inapplicable in practice because they are too rigid, inadequately worked out, or conceived in terms that are too abstract or doctrinaire. In such cases, regulations that may be excellent in principle may in the end afford inadequate protection for the consumer. They undermine the certainty of law to which producers are entitled. The public authorities are faced with the dangerous choice of resorting to arbitrary and repressive measures, or latitude that defeats the purposes of the law.

To obviate this dilemma, food regulations must be readily adaptable to changes in the needs and technical aspects of their application.

2.2.3 Adaptability

That a rule of law must be relatively fixed might seem incompatible with the need for constant and easy adaptation of food law. The more detailed a regulation, the more frequently it will need amending. The authorities should be in a position to update technical provisions without, every time, having to call into question the permanent underlying principles of the law itself.

However, the regular updating of food law also depends on a concerted international formulation of these rules. Only by regular comparison of methods, concepts, and scientific data is it possible to prevent the laws becoming obsolete, and to avoid a waste of effort and resources. Accordingly, the rules regarding the formulation and enforcement of food law must be so conceived as to permit the ready incorporation into a national law of technical and scientific requirements adopted at the international level, whenever appropriate.

2.3 General Concept of Food

In its most commonly accepted sense, food is any substance, solid or liquid, that may be ingested and digested by a living organism (i.e. by man when food for human consumption is referred to, which is what this study is about).

This definition, however simple, is too broad and imprecise. In particular, it does not specify the following details:

- why the substance is consumed
- by what route it enters the organism
- to what extent it is ingested (completely or less than completely)

- for whom the substance is intended, whether for the population at large or for a particular kind of consumer

The main reason a substance is absorbed by the human organism is clearly to satisfy physiological or nutritional needs. The substance also may be ingested to satisfy a certain pleasure in tasting, an organoleptic purpose that may be sought quite apart from purposes of nutrition. Last, it may be ingested for therapeutic reasons.

The nutritional function of a food is generally considered by nutritionists to be the characteristic of food in the objective sense of the term. One might deduce from this that all substances ingested solely to satisfy organoleptic needs and which are devoid of any nutritional value, do not constitute food. Nevertheless, one should add that such substances are rarely ingested alone, but are added to a food (or therapeutic substance) in order to improve its taste and to render it more acceptable or palatable. It will be seen later in this study that such substances as condiments and spices should be considered objectively as “food additives,” the notion of which, while quite distinct from that of “ingredient,” is not necessarily distinct from that of food in the strict sense.

A clear-cut distinction must be made between food and substances taken into the organism for therapeutic purposes. Such substances are referred to variously as “drugs,” “pharmaceuticals,” or “medicines.” The distinction between pharmaceutical products and foods is not, however, always easy to make. Certain medicines may also have a certain food value and, conversely, the composition of certain foods may have been modified by the incorporation or removal of substances with a view to securing preventive or curative effects for certain health problems. The most convenient criterion (for making the distinction) is to consider what the consumer has in mind and what is held out to him: a nutritional purpose for food or a therapeutic purpose for medicines.

We come, now, to the route by which a substance may enter the human organism. This can be oral or nonoral. The latter case implies a medical intervention, which takes its character as a food in the strict sense from the substance itself rather than from its mode of entry, even though it is ingested for nutritional purposes.

The next question, that of knowing whether a food (if it is to be so described) must be susceptible to total absorption by the organism, may be considered in two aspects. On one hand, there are products of which only a part is consumed, the purpose being to produce nutritive and/or organoleptic effects. A typical example is chewing gum, where the base is disposed of once the food part is consumed. This is usually considered to be food. On the other hand, there are substances that may obtain partial access to the human organism without their being intended for any nutritive effect, whether inhaled (e.g., tobacco smoke) or applied to the skin (e.g., cosmetics). Such substances have no direct connection with human food.

Last, if nutritive function is considered to be one of the criteria for the qualification of food products, then the same criteria must also be applicable to those products that are not intended for consumption by the population in general, but by certain categories of individuals only. This is the case, particularly, with dietetic products or foods intended for certain kinds of sick persons, very young children, the aged, and expectant mothers.

The particular nature of these foods, and the specific problems that arise in their regard, are such as to assign to them to a separate sector.

Accordingly, there are certain matters or substances ingested by consumers that are not considered food (e.g., pharmaceuticals), while others, although so considered, must be treated separately (e.g., dietetic products). There exists even today a fairly wide diversity of opinion as to what should be included under “food” in the objective and prime sense of the term.

At its session in November 1966, the Joint FAO/WHO CAC proposed a definition of food as being necessary for an understanding of the “General Principles of the Codex Alimentarius,” and not with the intention of its possible adoption by governments in their national legislation. This definition is as follows: “Food” means any substance, whether processed, semi-processed, or raw, that is intended for human consumption, and includes drink, chewing gum, and any substance that has been used in the manufacture, preparation, or treatment of food, but does not include cosmetics, tobacco, or substances used only as drugs.

Statutory definitions, where these exist (and it is always the case), bring out certain differences between what nutritionists and lawyers respectively consider to be food. Likewise, the sphere of application of food law frequently includes products or substances that are not, by objective criteria, food. Contrariwise, there may be a deliberate exclusion of certain food substances that the legislator has preferred, for practical or administrative reasons, to bring under entirely different regulations.

However, the utmost care should be taken to avoid confusion between the legal notion of food and the sphere of application of food law. The legal notion is based on the definition of food contained in an enactment of general application. That this notion should be included in food law is often desirable, provided that its content is not unduly different from the objective connotation of the term as employed by the nutritionist. If the law includes nonfood products under the definition of food, then those products should be presented in the law, not as a contrived extension of the definition itself, but as so many matters additional to its field of application.

There are certain rules of law that may affect, directly or indirectly, the production, processing, marketing, or control of food, or certain types of food, yet do not stem from general food legislation. It follows that these rules lie outside the domain of food legislation in the strict sense, but make up an area of law connected with it in some way. The connection may be of two kinds. It may be substantial and necessary where, by reason of their object, such rules necessarily affect the composition or quality of food or its trade. It is the case, for example, with regulations governing animal foodstuffs, the use of pesticides, the protection of the environment (pollution of the air or water), and legal provisions affecting economic aspects of food products (e.g., price control). Equally, the connection may only be accidental where the rules have been made for specific juridical situations, capable of, but not necessarily, affecting the production, processing, or marketing of food, as in the case of certain provisions of criminal, economic, or administrative law, or regulations governing such matters as trademarks, advertising, and unfair competition.

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Biographical Sketch

Dr. Pál J. Molnár is Scientific Advisor and Director of the Food Quality Center in the Central Food Research Institute in Budapest. He studied Food Technology and Biochemistry at Humboldt University of Berlin, 1962–1966. He received his Ph.D. from the same University in 1972, and his D.Sc. from the Hungarian Academy of Sciences in 1996. His main activities are related to food quality, sensory analysis of food, and several fields of food quality management, including food standardization and product development. He is President of the Hungarian National Committee of the European Organization for Quality (EOQ) and co-chairman of the Codex Alimentarius Commission on Methods of Analysis and Sampling (CCMAS), and has several other national and international positions. He is Editor of the Hungarian Scientific Periodica *Élelmiszervizsgáló Közlemények* (Food Investigations).

Dr. Molnár has published three scientific books and more than 300 papers in Hungarian and international periodicals. In addition, he has edited more than ten conference proceedings in the field of quality development. He has been awarded several Hungarian and German recognitions.