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# FOOD PRODUCTS' CYCLE OF LIFE

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**Abstract:** *For determining the durability of a food product it is essential to correctly select the quality characteristics, the weight factor of those determined through sensorial evaluations having to be in accordance with the weight factor of measurable characteristics.*

*Quality testing for determining and checking the durability, and therefore the expiry date, has to be done by experiments, analyzes and calculations which have in mind certain aspects of the use value of food products . In order for these evaluations to be conclusive, they have to be performed under certain storage conditions foreseen by standards.*

**KEY WORDS:** science of commodities; term of validity; durability; consumption; alimentary safety; work specific proofs; physical – chemical and sensorial characteristics; methods of merchandise analysis; informational systems; fabrication technology; risk; producer; trader; consumer; market.

JEL classification: L00, L66

The exponential development of food processing methods determined by the informatization and the automatization of the processing technologies, the machinery modernization and the diversification of the products scale made the food chain become more complex and raise miscellaneous problems; on the other hand, the control measures, meant to ensure an acceptable standard of safety, became more rigorous.

The study of the determinative and influential quality factors of food products are today the first priority in gratifying the demands of the informed customers, who, thanks to the enlargement of their knowledge and abilities, expect to get the maximum utility from any product.

The information about any food product is in our millenium the zone where all commerce principles are accepted and elastically applied by the producers. They must offer professional, credible and verifiable information.

The quality guarantee, from the most engaging to the most risky for the economic operators, that targets both the technical and the estethical-emotional side, has profound implications on the market. The credibility, the power to persuade and the stability of the companies on the market are maximized by the validity which they provide to food products, by the informational message offered to customers on the label.

The stability of the food product along the entire period of the technical circulation represents that zone of confrontation which no economic operator can avoid, be he a producer or a trader. The physical life of products is limited in time – even if, through modern methods, degradation can be decelerated – because their stability is determined by the substances in its composition which have different degrees of transformability, both under the incidence of the inter-reaction with the other component substances and under the incidence of some environmental factors.

From here, the deadline for consumption, which is operational in a certain regime of conservation known and monitored with professionalism, must be determined in order to limit the risks of both the producers and traders, but especially those of the consumers. Therefore, testing the quality of food products, their bearing along the economic way to the final accomplishment, establishing the consumption rhythm and, within it, the validity, require permanent surveys by applying an adequate system of evidence that must represent the informative and scientific basis of the products that need to be competitive on the market.

Unlike industrial products, whose quality can be easily defined through a series of mechanical, physical or chemical properties, the quality of food products represents a complex notion that comprises a triple compulsory condition: it is innocuous, it has nutritive value and sensory properties; and, if we consider the marketing and production development, we must also include the fourth condition: the adequate presentation according to the real quality of the product.

The quality of food products and its component – the validity – is influenced by a series of factors that act both in production and in the circulation of products. The factors that act in production can be found in: the activity of research and design, the training and interest of the labour force, the raw and auxiliary materials, the materials used in fabrication, the technology adopted (with reference to the technological process and the technical equipment), the quality control, packaging, ticketing and registration of products. The factors that act in the circulation of products are: the activity of contracting, the quantitative and qualitative reception of merchandise, the operation, the transportation and warehousing of merchandise, the modalities of exhibiting the merchandise, the promotion of products within the marketing mix.

The quality of food products also refers today to the modern nutrition requirements, to the reconsideration of the chemification of raw food materials and to the enlargement that the scientific and the technical progress takes. The value of using food products is reflected in the nutritive value which includes the psycho-sensorial value, the sanitary value, the energetic value and the biological value. Thus, the quality of a food product represents the combination of several aspects of quality, and also a reflection upon the constant conformity of products in comparison with the customers' expectations.

A food product will have a normal quality when the technical conditions are rigorously respected and the prescribed quality is controlled along its processing and trading. Being determined by the interaction among the quality of the raw material, the way of creating the product, the conditions of operation, transportation and warehousing, the real quality corresponds to the prescribed quality when the dispersion of the values of the quality characteristics for all the product components find themselves within the limits settled according to the standards.

Food products must be submitted to a permanent examination in the conditions of an intensive social and economic development which sometimes have a negative impact upon the quality characteristics. It is necessary to initiate permanent systematic investigations upon the quality of products in order to emphasize the connection and the adaptation of the product to the users' requirements.

A special interest of our modern society is pointed to the issue that regards the quality security and guarantee of products made by the supplier to the final user.

The food product is under the impact of environmental agents and, thus, its properties are continuously modified, reaching the stage of being uneatable, when the amplitude of negative modifications make the product inadequate for consumption and excluded from the food circuit.

In this context, we have to take into account four temporal parameters:

- the maximum duration of a commercial circulation of the product ( $T_0 T_1$ );
- the guarantee duration of the merchandise as a validity ( $T_0 T_2$ );
- the maximum duration of preservation ( $T_0 T_3$ );
- the maximum duration of the state of being eatable ( $T_0 T_4$ ),

their relation being  $T_0 T_1 < T_0 T_2 < T_0 T_3 < T_0 T_4$ .

Today, when there is a wide range of food products, the quality guarantee, offered by the validity too, is the more important the more it represents a considerable competitive factor. The producer guarantees the quality directly along the validity; during this period of time the product needs to be packed, transported, operated and preserved according to the norms in order to maintain its initial quality. From the producer's point of view, assuming the responsibility of providing guarantee means a great risk because any non-concordance that is not found out in due time could jeopardise production, quality and, thus, the fame of the company.

At present, the high stability of the properties of products, the modern methods of packaging and transport eliminate the necessity of some strict preservation conditions according to the merchandise type; still, the pursuit of the consumption deadline remains operational. Thus, the regulation of the speed for the movement of the food product on some loops of physical and organizational translation could be solved by negotiation between the economic operators.

The quality guarantee and the common phrases such as „guarantee”, “validity” and, lately, “date of minimal durability” constitute an important condition of the relation between the economic operator and the consumer.

According to the modifications that happen due to certain factors – temperature, relative air humidity, radiations, microorganisms, etc – there has been experimental research which has established a minimum quality availability of each product under the settled conditions.

As a consequence, the validity of food products must comprise their entire economic and technical circulation, either it develops on the short route – from producer to the final consumer, passing only through the retail shops – or on the long route – to which the wholesale company is added.

It is interesting to notice that the validity of food products continues at the moment when the specific technological process is ended, from the fabrication date, because most of them are perishable, and the validity depends on their nature, their chemical composition, their method of preservation, the technological process, the modality of packaging, preservation, operation and transport.

In order to diminish the commercial risk, the producer is obliged to deliver the food products rhythmically before one third of the validity expires.

The suppliers have the obligation to enclose some certificates that guarantee the validity of their products. They have to define the technical characteristics, the elements of identification of the product, the validity and the modalities of insurance (the conditions for preservation) – all of them as a means of protecting the consumer but, also, as a marketing action. When there is the case, the producer must enclose other documents (the quality certificate, the analysis form) that contain different information which are necessary to determine the quality easily, on types of products and in conformity with the norms in force.

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