

FOOD QUALITY CONTROL IN INTERNATIONAL TRADE

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1. Introduction

Quality is the fundamental problem of present-day world where the borders are open for the relatively free flow of goods and services and where the competition is fierce. Quality is particularly important in evaluation of food products. This is accompanied by the increase in demands from consumers and all intermediaries in food trading. Increased awareness of consumers demanding safe food of the highest quality caused that producers wanting their products to enjoy consumer confidence must possess certificates confirming that high quality.

During 1990's, in Western Europe, because of the BSE, cattle herds were subject to mass slaughter, which showed shortcomings in the food safety assurance system harmonisation. Consequently, the food law system has been harmonised within the entire European Union to cover the entire food chain. Mass consumption that is the base of mass production caused increase in importance of quality. The first attempts at defining the notion of quality were undertaken already by ancient philosophers. Aristotle qualified quality to the set of ten categories describing the reality. According to him, "Quality is to express the definiteness of the being and the specific subjection of the matter to the form manifesting in it. We should identify permanent, discretionary, difficult to change because related to the difference of species of the being and the variable qualities – the states that can transform into their opposites" [1, p.32]. Today that notion is being defined as the "level of health, sensor attractiveness and availability in wide consumer and social meaning significant only within the limits determined by the raw materials, process and characteristic stipulated for that product" [2, p.114].

Quality management in food industry is of particularly high importance as a consequence of the emotional attitude of the consumer to food products that, consumed every day, influence his mind-set and health [3, p.75]. Within the frameworks of quality control, the enterprises conduct activities that are linked to specific notions, institutions, regulations and certificates.

Quality is the extent to which the set of inherent characteristics satisfies the requirements [4, p.208]. Quality control is the continuous process of performance evaluation and taking the corrective measures when necessary [3, p.207].

Food legislation is the set of legal norms (acts) that set the principles for production of and trade in the raw materials, food and products that get in contact with them to the extent necessary for protection of health and satisfying consumer expectations [4, p.9].

RASFF – (Rapid Alert System for Food and Feed) is the rapid alert system concerning dangerous food products and feeds [5, p. 14].

Quality assurance and quality management systems represent formalised actions and methods applied during the production process offering the guarantee of obtaining food of the highest quality possible and its full safety [5, p.16]. In evaluating food quality, safety, sensor attractiveness, energetic and nutritive value as well as trade characteristics such as shelf life, preparation ease or type of packaging should be considered. Responding to consumer needs by satisfying them is the fundamental task of quality. Food safety is linked inseparably to the notion of food quality. The requirements that must be satisfied within the entire food chain have been defined for the purpose of minimising the risk related to floating dangerous foods to the market. Those requirements are found not only in the legal regulations in the field of food law but also in the systems. Implementation of quality assurance and management systems is necessary to obtain guaranteed quality foods. Those

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systems have been defined as formalised actions and methods applied in the production process offering the guarantee of obtaining the best possible quality of food as well as its full security. Undoubtedly, the following systems should be listed among the food quality assurance, and consequently food safety assurance, systems: HACCP, Good Practices (Manufacturing – GMP, Hygienic – GHP, Agricultural – GAP, Laboratory – GLP).

An important role in quality management in food sector enterprises is played by the systems of:

- ISO 2000 series.
- ISO 9000 series.
- IFS.
- BRC.
- EUREPGAP.

Supervision of food in the entire food chain is conducted on the base of two systems:

- Internal control system representing control performed at the plant for which the manufacturer is responsible. It is based on the principles of the fundamental quality assurance systems such as Good Practices, HACCP, or ISO 9000.
- External control system, where the control is independent of the manufacturer and it is conducted by bodies of official food control. The following bodies are responsible for the statutory food control:
 - Sanitary Inspection.
 - Veterinary Inspection.
 - Agricultural-Food Quality Products Trade Quality Inspection.
 - Trade Inspection.
 - Plants Protection and Seed Production Inspection.

The Government Sanitary Inspection and the Government Veterinary Inspection possess the best professional competences for performance of food quality and safety control.

2. Aim and methodology of studies

Faced with the increasing consumer awareness and fierce competition in food sector, producers from that sector are forced to carry continual work aiming at improving quality at the enterprise. The certificate is the confirmation that the identified process of a given organisation is compliant with the requirements of one or many standards assumed for the base of certification. That is why, enterprises that obtained certificates are subject to control conducted by specialised entities that in case of finding noncompliances may suspend or withdraw the certificate.

Consequently, the aim of the paper is to define the benefits resulting from quality management systems implementation and certification with particular focus on their influence on international trade and obtaining knowledge on quality control methods applied at food sector enterprises.

The empirical part of the work was based on the survey conducted at food sector enterprises during the first half of 2011.

According to the European Classification of Economic Activities, those enterprises are classified as large. The analysed enterprises are situated in various areas of the country. They also conduct their activities in various segments of food industry. Those enterprises are also exporters of their products to the markets of both the European Union and the countries that are not members in the Community.

3. Quality systems in the analysed enterprises

As of 1 May 2004, HACCP system implementation is compulsory in all food sector enterprises. That duty applies to all enterprises indifferent of their size and production specificity. That is why all the analysed enterprises possess that system implemented. Indykpol was the first company that has implemented the HACCP system both among the companies surveyed and in the country. The system was implemented already in 1999. The analysed organisations implemented the HACCP system at all stages of operation from obtaining the raw material to finished products distribution. Implementation of Good Practices, in particular Good Manufacturing Practice and Good Hygienic Practice was the base for implementation of that system. Application of Good Practices and the HACCP system represents the minimum for the food sector enterprises to be able to manufacture appropriate quality product safe for the consumer. The HACCP system also forms the foundation for implementation of other, voluntary quality management systems. Increasingly often food manufacturers decide to implement quality assurance systems that increase consumer trust in their products and make the products more competitive. Among the analysed Indykpol S. A., Tymbark-GMW Sp. z o. o. Sp.k., Sertop Sp. z o. o. and Okręgowa Spółdzielnia Mleczarska [Circuit Dairy Cooperative] in Piątnica possess implemented quality management systems according to ISO 9001. Those companies conduct activities aiming at satisfying the expectations of their clients. Two of the analysed organisations, Indykpol and Sertop, decided also to implement the international quality standards of the BRC (British Retail Consortium) and the IFS (International Food Standard). The BRC system developed by the British Retail Consortium specifies the requirements that must be satisfied by food manufacturers interested in marketing their products in the United Kingdom. The working group of the Federal Association of Trade Enterprises BDH created the IFS. The IFS standard is accepted mainly in Germany and France although every year it enjoys increasing popularity in other countries of Europe also. To a significant extent, it is based on the BRC requirements. The creators of both systems put a lot of pressure on the HACCP system.

For the Circuit Dairy Cooperative in Piątnica care for the environment is of high importance. The enterprise values its cleanliness also because it wants to manufacture the finished products of the cleanest raw materials possible. Taking care for the natural environment the organisation has implemented the environment management system according to the ISO 14001 standard. One of the analysed organisations decided to implement the food safety management system according to the ISO 22000 standard. That system has been implemented by the Food Processing Enterprise "Pekpol Ostrołęka" S. A. The ISO 22000 system is targeted at all enterprises participating in the food chain, both directly and indirectly. The ISO 22000 is the first international food safety management standard that was adjusted to the food suppliers' chain specificity "from the field to the table" (Table 1).

Tab. 1. List of quality systems implemented in the enterprises surveyed

ENTERPRISE	IMPLEMENTED QUALITY SYSTEMS
INDYKPOL	Good Practices, HACCP, ISO 9001, IFS , BRC
TYMBARK	Good Practices, HACCP, ISO 9001
SERTOP	Good Practices, HACCP, ISO 9001, IFS , BRC
O. S. M. PIĄTNICA	Good Practices, HACCP, ISO 9001, ISO 14001
PEKPOL	Good Practices, HACCP, ISO 22000

Source: Own work

Possession of quality system certificates causes that the enterprise possessing such certificates is more trustworthy. All the analysed enterprises possessing quality system certificates noticed increased volumes of exports following certification. Sertop pointed out that following certification, exports of its products increased by as much as 50% as the enterprise succeeded in establishing

collaboration with countries such as the USA, Canada and Israel. Earlier it sold its products in the domestic market and markets of the Czech Republic and Slovakia. Indykpol brand has been known abroad for many years.

The enterprise has exported its products already since 1993. Around 30% of its products go to the European Union markets, mainly the United Kingdom and Germany, while smaller volumes are exported to the Far East countries. Exports of Tymbark also increased significantly, particularly to the European Union countries. This is linked to the absence of customs barriers, which allows easier and faster logistics.

The organisation decided to increase exports of its products to the European Union markets, particularly the United Kingdom, because many Poles have settled there during the recent years. Piątnica recorded only minor increase in exports. This results from the fact that the organisation is focused on production of fresh products that go to the domestic market mainly. Products by that organisation are exported mainly to the Czech Republic and Slovakia but also Russia. Currently, exports represent just 1 – 2% of the income. On the other hand, the organisation notices the continual increase in sales of its products in the domestic market. In the nearest future, it is planning to increase exports of its products to Russia.

We know already that all the analysed enterprises decided for certification of their quality systems. The reasons for certification and selection of the certifying body are important elements in activities of the enterprise. All the organisations surveyed presented the following as the main reasons for certification:

- Willingness to improve quality and safety of offered products.
- Increase of export potential.
- Increase of competitiveness of enterprise products.
- Increase of consumer trust.
- Winning new clients.
- Increase of organisation prestige.
- Demand of trade chains (in case of BRC/IFS).
- Demands of clients.
- General trend in the industry.
- Management effectiveness improvement.

For the modern client the product brand counts. The organisation can achieve brand value and identifiability increase by, among others, building it on the base of continual quality improvement. Certified organisations are considered better and more reliable than those that possess no certificates.

Consequently, the certificate offers potential for gaining position in the competitive and demanding international market. Organisations deciding to initiate the certification process enjoy freedom in selecting the certification body. There are many certification bodies operating in Poland. There are large and small, domestic and international bodies available.

All the enterprises analyses considered the opinion among entrepreneurs on the given certification body the most important criterion in selecting the certification body. It is important that a trustworthy body enjoying good opinion awards the certificate and that the certificate awarded by the given body is recognised internationally.

The offer by the certifying body and the ease of establishing collaboration with it are the criteria of equally high importance.

Tab. 2. Criteria for choice of the certification body

Enterprise	Opinion among entrepreneurs	Ease of cooperation	Costs	Certification body offer
INDYKPOL	✓	✓		✓
TYMBARK	✓			✓
SERTOP	✓	✓		✓
PIĄTNICA	✓	✓	✓	
PEKPOL	✓		✓	✓

Source: Own work

Certification involves the necessity of making a variety of outlays that result in numerous difficulties for the organisation (fig. 1).

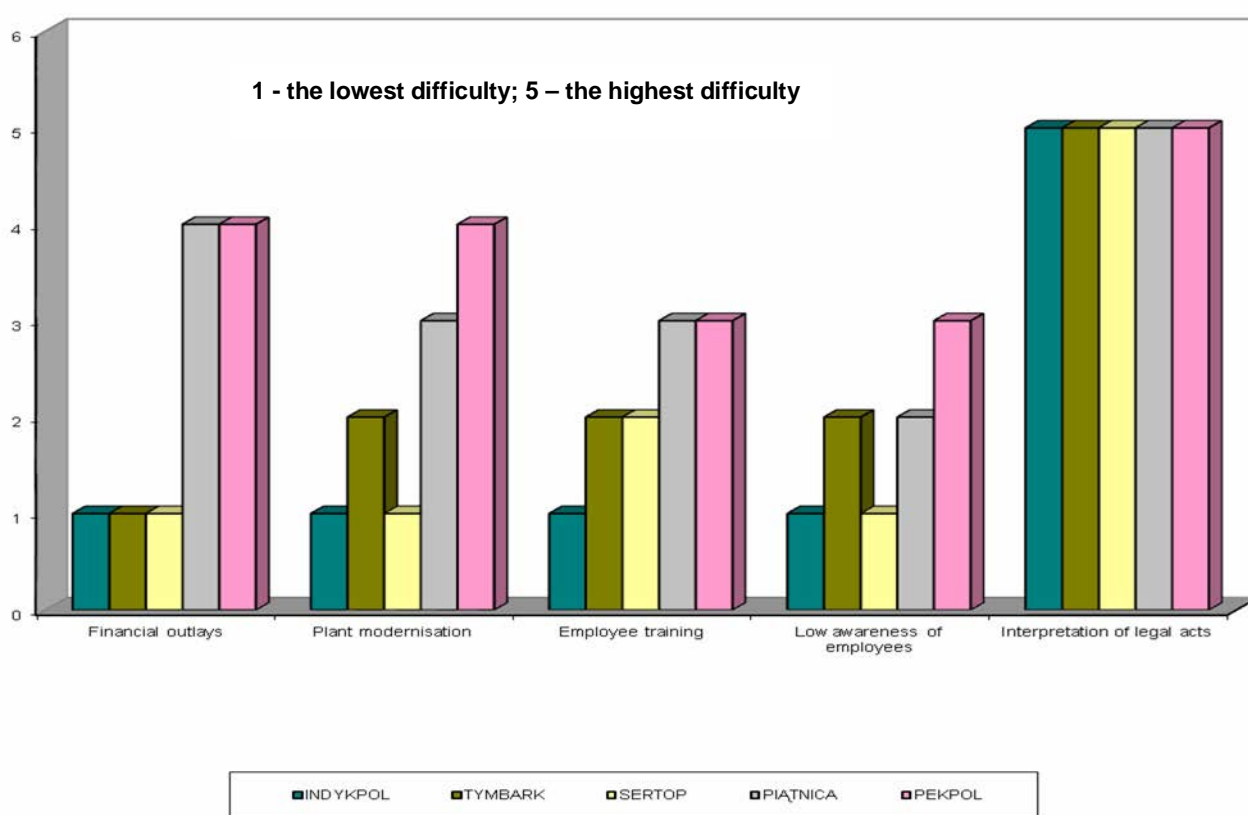


Fig. 1. Evaluation of the severity of difficulties encountered in the quality systems certification process

Source: Own work

All the analysed organisations considered interpretation of legal acts the most difficult issue in the certification process. They explain that difficulty as resulting from inconsistency of both domestic and international law, frequent changes in the regulations and imprecise formulation. Piątnica and Pekpol considered the necessity of making financial outlays and of modernizing the plants that is linked tightly with incurring costs, significant hindrances in the certification process. All the organisations ranked the need for training employees and low awareness of the employees next. Low awareness of employees hinders effective training. The mentality of employees that are frequently afraid of changes creates additional difficulties.

Enterprises that passed the certification audit with positive result became certificate holders. Possession of such certificates offers numerous benefits (figure 2).

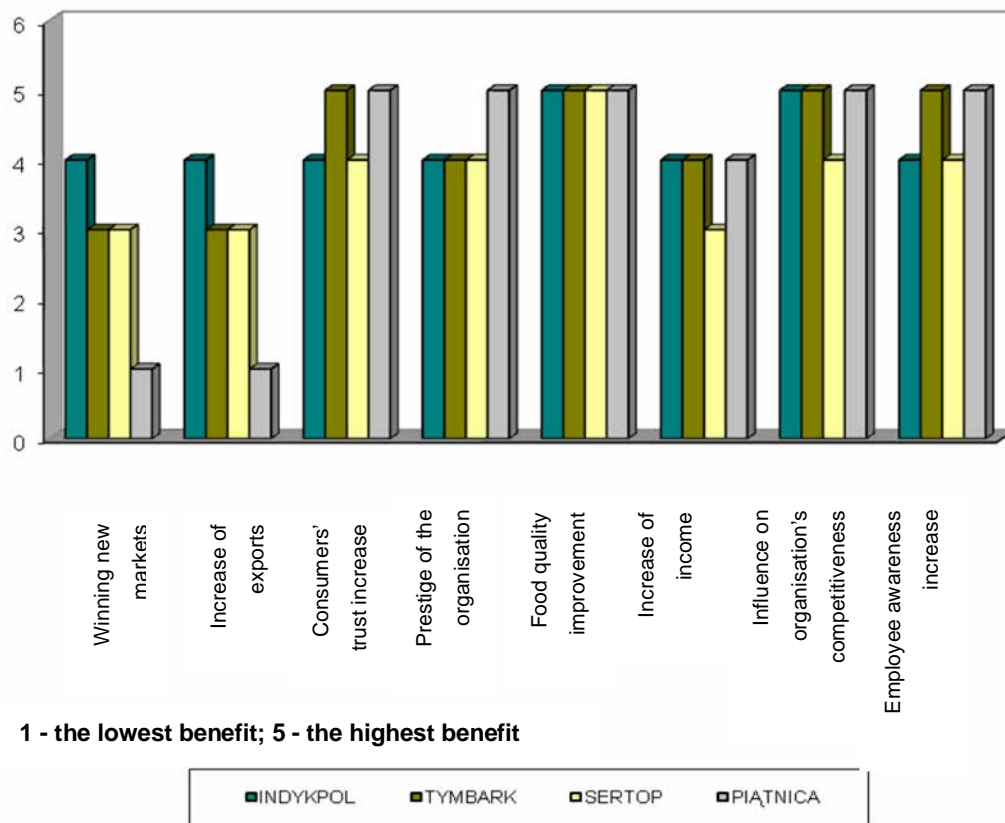


Fig. 2. Evaluation of the level of benefits resulting from possessing certificates

Source: Own work

Enterprise possessing certified quality systems is considered better, more reliable, assuming higher responsibility for its products. Increase of awareness among the employees, who learned assuming responsibility for all the processes in the organisation and are conscious of the fact that product quality is determined at every stage of production, were considered the undoubted benefit.

Benefits such as increase of exports, winning new foreign markets or increase of the organisation income and prestige were ranked by the organisations as inferior to the quality improvement and consumer trust.

4. Quality control in analysed enterprises

The process of food raw materials or finished products manufacturing should be designed appropriately together with implementation of controls of its functioning.

The main objective of quality control is to manufacture the product satisfying the specified requirements and is within the tolerance limits set.

Continuous quality improvement represents another very important aspect of quality control. Supervision of food production in the analysed organisations, in the same way as in all food sector organisations, is based on the internal and external control systems.

The external control system is independent of the manufacturers.

Specialised bodies of official food control such as the IJHARS, Veterinary Inspection and Sanitary Inspection conduct it. Supervision by official food control bodies is based on statutory regulations and therefore it is objective. Official food control is conducted in the uniform way at all the enterprises analyses and all enterprises in general.

The uniform method of conducting control indifferent of the production specificity gives the consumers the feeling of security.

Tab. 3. Internal control system in the enterprises surveyed

Control method applied	ENTERPRISE				
	<i>INDYKPOL</i>	<i>TYMBARK</i>	<i>SERTOP</i>	<i>PIĄTNICA</i>	<i>PEKPOL</i>
Internal audit	6-8 x a year	6 x a year	10-12 x a year	4 x a year	2 x a month selected departments; 1 x a year all departments
Laboratory tests	✓	✓	✓	✓	✓
Random control	Daily	Daily	Daily	Daily	Daily
Raw materials control		✓	✓	✓	✓
Employee training	✓	✓	✓	✓	✓
Maintaining documentation	✓	✓	✓	✓	✓

Source: Own work

The enterprises surveyed implement internal control based on own schedules. This allows efficient organisation of that control adjusted to the specific conditions of the organisation. Thanks to such a solution quality control is conducted in the effective way allowing detection of possible noncompliances and at the same time it creates more difficulties.

For the organisation, the certificate is the document that allows building consumer trust, competitiveness of the enterprise and winning partners. It represents confirmation of satisfying the expectations formulated by the buyers of the enterprise products.

Consequently, enterprises must improve quality continually to prevent suspension or withdrawal of certification. Certification loss would result in loss of consumer trust built for a long time and even stopping exports to areas where possessing the certificate is the condition for allowing a product for trading.

5. Conclusion

As a consequence of creating the single market covering the area of the European Union, many barriers to international trade have been removed.

Poland as a Member State and a free market system of economy was forced to adjust standards concerning quality assurance and control to the European Union and global requirements.

As a result of the survey concerning food quality control in international trade conducted on the group of five food sector organisations, the following general conclusions can be formulated:

- improvement of offered products quality and safety is the main reason for implementation of quality systems and obtaining certificates by organisations;

- obtaining certificates for the implemented systems allows increasing international trade volume. All organisations recorded increases in exports after certification;
- opinion concerning the certifying body, its market position and recognition of the certificated awarded in the international markets were the most important criteria determining the selection of the certifying body;
- interpretation of legal acts causing misinterpretations and sometimes differences in interpretation was the major difficulty during implementation and certification of quality systems;
- undoubtedly, increased enterprise competitiveness results from the enterprise focus on the quality of its products. Certificates represent confirmation of high products offered quality;
- the organisations surveyed understand very well the idea of quality as continual quality improvement as they declared unanimously implementation of further quality systems and obtaining further certificates.

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Summary

This article examines food quality control as the fundamental problem of present-day world. Poland as a Member State and a free market system of economy was forced to adjust standards concerning quality assurance and control to the European Union and global requirements. Enterprises must improve quality continually to prevent suspension or withdrawal of certification. Improvement of offered products quality and safety is the main reason for implementation of quality systems and obtaining certificates by organisations. There are given recommendations concerning increasing the international trade volume.

Key words: food quality control; international trade; enterprises.

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