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ЕКОНОМІКА ТА УПРАВЛІННЯ НАЦІОНАЛЬНИМ
ГОСПОДАРСТВОМ

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STATE TECHNICAL REGULATION MEAT INDUSTRY IN UKRAINE

The purpose of the article is updating the scientific and methodological principles of technical regulation issues industry of meat in Ukraine. The study used methods of theoretical generalization and comparison, analysis and synthesis. The survey found that the national system of state regulation compliance of food in terms of quality needs to be changed, new methodological and methodical approaches to technical verification procedure, replacing the principles of priority control on the principles of support and development of food production.

Keywords: technical regulation, foods, examination, identification, standardization, industry of meat.

Problem in general and its connection with important scientific and practical tasks. Meat processing industry of agricultural sector is a complex production-and-economic system which is formed under the effect of political, economic, social, demographic, organizational-and-legal, scientific-and-technical and natural factors. 10 largest companies of Ukraine were selected among many meat producers.

The top ten include meat packing plants of "Druzhba narodiv" LLC (part of the group "Myronivskiy khiboproduct"), "Globynskiy meat packing plant" LLC, "Favoryt" meat factory, "Yatran" meat packing plant, "Kremenchuk miaso" OJSC, Horlivka meat packing plant, Luhansk meat packing plant, "Yuvileinyi" meat packing plant, Volodymyr-Volynskiy poultry factory, Ukrainskiy bekon. "Zhytomyr meat packing plant" LLC is the 14th among largest domestic meat processing plants.

Experience studying of the operation of large meat processing enterprises of Ukraine shows that the market of meat products is consolidated. Large manufacturers create vertically integrated structures covering the entire cycle of production and sale of meat products - from livestock breeding to retail.

Consolidation process of the assets of the largest producers will end with the fact that medium and small processing enterprises can become bankrupt because they cannot bear the competition on the market. The important factor of the competition on the market of meat products is reconstruction of the enterprises. Only those enterprises can survive

which invest considerable amount of money in production expanding, in improving the technology of growing, processing and sale of products and introduction of strategic management.

In our view, medium and small meat processing enterprises that use strategic management can have advantages over great producers of meat products due to the flexibility of their operations, while faster responding to market demands, changing "unpopular" products to new ones.

The leading producers of meat processing industry in 2011 are "Zhytomyr meat packing plant" LLC, "Ecoproduct" LLC from Zhytomyr district, "Berdychiv meat packing plant" PJSC, "Ovruchmiaso" LLC, "Novohrad-Volynskiy meat packing plant" PJSC. Every sixth enterprise produces fresh, cold, frozen meat and meat products and sausages [5].

Raw material for making meat products is livestock and poultry purchased from producers by the enterprises. Their task while breeding the livestock for meat is such process organization that would ensure profitable conducting of this industry. Quality of bred livestock has a significant impact on economic indexes of meat production that stipulates the price level during its sale by processing enterprises. Category determination of livestock and poultry fatness and procedure of their sale to meat processing enterprises was set out in regulatory documents, compliance with which enables to achieve the maximum level of selling price for livestock and poultry in specific circumstances and as a result to improve the efficiency of this industry.

Efficacy increasing of certain regulatory mechanisms in Ukraine that are directly or indirectly related to the formation processes of meat products quality is necessary in multilevel areas.

Firstly, it is regulatory-and-technical grounding of quality parameters of the main and additional

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meat raw materials, of materials of animal keeping and slaughter.

Secondly, it is the possibility of use of food additives, technical preparations. Thirdly, it is determination of characteristics and norms for certain types of processed meat products. Fourthly, it is increasing of requirements to the processes of meat and meat products selling.

Fifthly, it is quality management and implementation of international systems of quality/food safety management. And finally, it is social regulation of quality and safety considering human physiological needs for protein foods as the basis of adequate and sound nutrition.

The national system of state regulation of food stuffs compliance by quality needs changes, new methodological and methodical approaches to technical verification procedure, replacing the principles of control priority into the principles of support and development of food production, providing cheap loans, development of market monitoring.

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Analysis of recent research and publications.

This problem is highlighted in the work of leading scientists and specialists, including: Galatsan L.A., Zaharkevych N.P, Noversalyuk A.A. However, the works of these authors do not fully cover the issues such as rationing of meat products in the system of technical regulation of Ukraine and the world, not evaluated according the standards laid down in the applicable standards of Ukraine in the world of meat products requirements.

The purpose of the article. An objective study of the technical regulation of meat products industry in Ukraine, opportunities and prospects of its development, analysis of problems and possible solutions.

The main material research. More attention concerning implementation of the basic principles of trade policy is paid to the quality and safety of agricultural-and-food products in terms of markets globalization and competition intensification. Successful solving of this issue is connected with the formation of a national system of technical regulation in food branch which must meet modern European requirements suggested by international and European standards.

Creation and development of quality infrastructure includes following directions: standardization, metrology, compliance assessment, accreditation and market monitoring.

The overall analysis of harmonization level of intergovernmental standards indicates its low level; in average as to agricultural products it is 4.3% of the general amount of current GOST (All-Union standard) in Ukraine. As the amount of GOST for agricultural products is about 65% of the general amount of current standards, so the average level of standards harmonization for these products is only 41.5%. It is necessary by 2018 to examine expediency of still current GOST and international standards in Ukraine developed before 1992. This work was not completed for lack of funds in due time [7].

The analysis of regulatory documents concerning meat and meat products as of 01st July 2015 points to a significant amount of GOST [2] with the results presented in Table 1.

Thus, intergovernmental standards (GOST) are 731 (60.6%), RST of former Ukrainian SSR are 101 (4.6%) and DSTU are 112 478 (34.8%) from the total number of standards current in the food industry (2 080 standards).

Table 1

Total number of standards current in meat industry*

Name of regulatory documents	DSTU (State Standards of Ukraine)	%	RST (Republican standards of former Ukrainian SSR)	%	GOST	%	Total
Meat, meat products and other animal products	120	34.8	16	4.6	208	60.6	344
General and organoleptic methods of food products analysis	64	61.5	-	4.6	40	38.5	104
Total	112478	100	101	100	731	100	2080

* Developed by the author

Incredibly large percentage of GOST and RST of former Ukrainian SSR for meat and meat products (which is 61.5%) from the total number of standards current in this branch is observed. The results of

harmonization analysis of national standards with international and European ones are presented in Table 2.

Table 2

Harmonization of national standards (DSTU and RST of former Ukrainian SSR) with international and European standards in meat industry*

Name of regulatory documents	Products		Controlling methods		Other standards		General level of harmonization
	total	including harmonized	total	harmonized	total	harmonized	
Meat, meat products and other animal products	93	-	34	22	9	-	16.2
Total	541	22	681	402	127	61	35.9

* Developed by the author

681 standards are current for control methods. On average the level of harmonization is 59% and standards for general and organoleptic methods are harmonized at 71.4% and less harmonized are the standards for control methods of meat and meat products (64.7%). Standards for control methods are

harmonized with ISO standards (91.2%) and EN (8.8%).

National standards for products are 40.1%, for control methods are 50.5%, for other standards are 9.4% from the total number. Number of current intergovernmental standards (GOST) in food industry is presented in Table 3.

Table 3

Number of intergovernmental standards (GOST) in meat industry*

Name of regulatory documents	Products	%	Controlling methods	%	Other standards	%	Total
Meat, meat products and other animal products	142	68,2	46	22,2	20	9,6	208
Total	383	100	292	100	56	100	731

* Developed by the author

Thus, 731 intergovernmental standards (GOST) are current in food industry including 383 (68.2%) for products, 292 (22.2%) for control methods and 56 (9.6%) for other standards. These standards are almost not harmonized because the issue with harmonization was not urgent in 1970-1980s when these standards were developing. However, these standards represent more than a third of all current standards in food industry.

Therefore, responsible technical committee on standardization should review all the out- of-date

standards for food products, introduce new technical requirements that would allow to estimate ready products by important consumption indices with division into commodity grades (classes, groups) depending on the quality which will give the opportunity not only organize the use of all products better, but also stimulate their production of the highest quality by proper pricing policy.

It should be noted that Meat Industry Associations of the European Union carries out more complex testing procedure including analysis of

fodder, fattening, slaughter, carcasses processing, meat production industry, transportation in refrigerators and retail trade which is important both for production and for quality confirmation of meat products.

On the other hand, this procedure is accurate, technically and organizationally proven in the proper way, understood by European manufacturer and consumer. The above-mentioned information confirms the quality and food safety as one of the main priorities of the policy of the European states.

Today in Ukraine production of cooked sausage products is regulated by State Standards of Ukraine (DSTU) and Technical Specifications (TU). In particular, cooked sausages of traditional assortment are produced according to DSTU 4436:2005 "Cooked sausages, frankfurters, small sausages, meat loaves. General Technical Specifications", DSTU 4427:2005 "Summer and dry-cured sausages. General Technical Specifications", DSTU 4531:2006 "Products of cooked and smoked-scalded poultry meat. General Technical Specifications", DSTU ENV 12014-3-2003 "Meat industry. Meat products manufacture. Terms and concept definition".

Such standards as DSTU ISO 1841-1:2004 "Meat and meat products. Determination of chlorides content. Part 1", DSTU ISO 936:2008 "Meat and of meat products. Method for determining of the mass part of general ash", DSTU ISO 1442:2005 "Meat and of meat products. Method for determining of moisture content", DSTU ISO 13965:2007 "Meat and meat products. Determination of the mass part of starch and glucose with fermentative method" are for control methods.

In the latter case, only those requirements that are different from the established standards without repeating already regulated rules and regulations should be mentioned in the technical specifications. Technical specifications can be designed both for only one specific type of product and for some similar types respectively if there is a national standard or the standard of "General Technical Specifications" type for the group of similar types, then indices or requirements for a particular product are established in the technical specifications. The use of standards as regulatory-and-technical regulations in market conditions by domestic producers is observed differently [8].

According to the Laws of Ukraine "On Food Safety and Quality" and "On Veterinary Medicine" laboratory measuring, testing and food research to estimate its safety and quality are carried out by laboratories that are subject to accreditation by the National Accreditation Agency of Ukraine or accreditation body of a foreign state in compliance with the international standard ISO/IEC 17025. Today 26 state laboratories of veterinary medicine are accredited by the National Accreditation Agency

of Ukraine in compliance with the international standard ISO/IEC 17025:2006 "General Requirements for the Competence of Testing and Calibration Laboratories".

In our country the compliance system of meat products is controlled in accordance with sanitary and hygienic standards DSTU, GOST, TU, ISO and the Laws of Ukraine "On Food Safety and Quality" and "On Veterinary Medicine". In the future, controlling is expected in accordance with the technical regulations for livestock products and technical regulation of minimum quality specifications of the products of animal origin which will regulate categories compliance with the product classes and established indices for a class on the complex of organoleptic characteristics, physical-and-chemical parameters and acceptable values of microbiological parameters: number of mesophilic-and-aerobic and optionally anaerobic microorganisms (MAFAM), CFU/g; bacteria of *Escherichia coli* (BGKP) in 0.1 g of product, pathogenic microorganisms; *L.monocytogenes*; sulphite-reducing clostridia; *Staphylococcus aureus*; yeast fungi, CFU/g; mold, CFU/g, etc.

Regulatory documents arrange the types of raw materials and food additives that can be used for the production, requirements for packaging, storing until expiry date and also methods and monitoring periodicity of products quality indices. Taking into account possible future increasing of sales market, domestic enterprises need to implement extensively certification (security) systems of products in accordance with the recommendations of Codex Alimentarius, international laws in the field of food products certification (ISO 9000:2000, ISO 22000:2005), EurepGAP control system in crop sector, control points system for livestock and food production - Hazard Analysis Critical Control Points (HACCP) which is translated as analysis of hazards and critical control points.

Currently in the EU countries the general requirements concerning HACCP system and the procedure of its development and introduction are provided in the regulations approved by the European Parliament on the 29th April 2004: Directive of EU No.852/2004 on the hygiene of food products and Directive of EU No.854/2004 on the organization of state control on products of animal origin intended for human consumption acting since 2006. HACCP system focuses more attention on prevention of the results than their correction concerning incompliance with the requirements of food safety at the stages of raw materials inclusion into production, the process of products manufacture, storage and supplying to the consumer.

HACCP system guided by such principles as analysis of possible hazards, identifying critical control points and indices of critical values, organic monitoring of control points and a list of measures

(corrective actions) to bring them to the norm and also finding the methods to confirm the efficiency of HACCP system and clear documentary proof of the control process that allows define the system of responsibility correctly at the stage of monitoring the food chain, provides a full cycle of risks control of products safety for consumption. Using of HACCP system is especially necessary in developing the purpose-oriented food stuffs by meat processing enterprises of our country (including the direction of consumer market because in the EU, USA and Canada only those products can be sold which were produced at the enterprises where HACCP system was introduced and accepted by third-party audit).

Introduction of the monitoring system of potential risks is also necessary to control and prevent genetically modified raw materials and food additives for combined meat products manufacture which is prohibited or restricted in Ukraine and the countries of expected export. The system of meat products safety is not only the task for controlling authorities but scientific institutions and enterprises themselves involved in technologies and formula developing in the conditions of production intensification and availability of significant fluctuations of quality indicators of raw materials.

At the stage of products manufacture the enterprise which expects HACCP system developing should create a working group to review and analyze existing regulatory documents and also standards that define quality system with the development of a plan of HACCP system implementation including system development of monitoring and training programme for the staff. Enterprise experience and auditors (consultants) recommendations on HACCP system implementation should be used while control system developing. One of the main elements which allow preventing safety parameter mismatch is identification and consideration of possible threats of safety and quality on the basis of negative experience, situational indices deviations of a specific type of raw materials and products at the stage of production cycle and also disposal cycle; in other words, increasing of production control during specific operations (critical control points) and on the stages of delivery, storage and selling to prevent product inconformity and strict registering of real effective measures to correct this inconformity. This analysis, to some extent, but in a wider range of control, includes elements of the national system of veterinary-and-sanitary control of food products manufacture and regulatory requirements on the organization of production flow (precluding of flows intersection of material resources, zonal system (sanitary requirements for enterprise departments), requirements concerning equipment and working clothes, climate conditions of the working areas, sanitary compartments) and requirements regulating

as to the workers and specialists who have to implement a system of manufacture and control [4].

Thus, the system of technical regulation in Ukraine is outdated, complicated and causes considerable operating costs for enterprises through exorbitant number of obligatory requirements, numerous (and duplicate in many cases) inspections made by various state institutions and laboratory tests to receive certification confirmation; standards themselves as regulatory-and-technical documents for processed meat products including sausages need to be updated and harmonized with international requirements, in particular European ones [6].

Conclusions. The main methods to solve the problems of the development of food and processing industry in Ukraine is to increase the capacity of the domestic market (by growth of population income, development of new products manufacture, import substitution), finding of new sales markets (especially concerning sugar, confectionery, dairy and meat products, alcohol, bioethanol), improvement of state and technical regulations, implementation of HACCP or similar control systems of food safety. The current situation in food industry is characterized by a considerable competition and relatively low growth of consumer prices. Now most food enterprises have to look for internal reserves of increasing the efficiency of their activity and flexible respond to changing of the external environment. In general, market mechanism of food enterprise management can be defined as a systematic implementation of market-based instruments for its functioning. This mechanism is characterized by high intensity use of the financial methods at the enterprise which move attention to short-term problems and demand to carry out strict financial measures.

We believe that manufacture diversification directed or oriented to products manufacture with inelastic or light elastic demand due to the need of the goods that will contribute to a continuous flow of "real money" in certain sector is required at the enterprises of food industry in the condition of financial crisis. Using this advantage, enterprises in this industry should strengthen the raw material component that will help to support agricultural sector and other related industries (e.g. production of packaging and packing); improve physical infrastructure; increase personnel qualification, implement a quality system for meat products at all the enterprises of this industry and monitor the proper fulfillment of all the terms regarding product quality.

Thus, the enterprises of food industry should use all possible economic key factors for technical re-equipment including financial leasing which ultimately leads to the final product manufacture with the least labour costs. In turn, this fact will

increase the competitiveness level as to the similar goods imported into the region.

The authors believe the prospects for further research in this area are to study the harmonization

of technical regulations field of study to enhance the efficiency of domestic enterprises in the global market of meat.

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