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CONTENT

BIOLOGICAL SCIENCES

<i>Aghayeva E.</i> RHODODENDRON CAUCASICUM PALL. FLORAGENESIS 3	<i>Vardanyan Z., Bairamyany L., Sahakyan G., Mkhitaryan H.</i> BIOMETRIC INDICATORS OF THE ORGANS OF SAMBUCUS NIGRA L. DEPENDING ON GROWTH CONDITIONS 7
---	--

EARTH SCIENCES

<i>Kholina T., Bekerev A.</i> ASSESSMENT OF SOIL RESOURCES OF GUBA DISTRICT (AZERBAIJAN) 11

ECONOMIC SCIENCES

<i>Chitakova D., Radev R.</i> CONSUMER ATTITUDES TOWARDS THE COMMISSION FOR CONSUMER PROTECTION IN BULGARIA 15	<i>Rustambekov G.</i> NATIONAL ECONOMIC INTERESTS AS A FACTOR OF SOCIALLY ADAPTED DEVELOPMENT 21
--	--

HISTORICAL SCIENCES

<i>Jafarova E.</i> ANTHROPOMORPHIC AND ZOOMORPHIC PLOTS ON MIEVEAL CERAMICS OF SHIRVAN 25

JURIDICAL SCIENCES

<i>Akhmetova N., Serikbaeva S.</i> CODIFICATION WORK IN RUSSIA ON KAZAKH LEGAL CUSTOM IN THE 19TH CENTURY 32
--

MEDICAL SCIENCES

<i>Yancheva S., Buchvarov E., Bivolarski I.</i> VIRAL ENCEPHALITIS – CAUSE FOR A TRAFFIC ACCIDENT 37	<i>Bayramov Y., Alieva E., Mehmani I., Babayev E., Ashrafov D.</i> FEATURES OF ADAPTATION TO COMPLETE REMOVABLE LAMELLAR DENTURES 42
<i>Buruaiană S., Guțan D.</i> CLINICAL AND HEMATOLOGICAL ASPECTS OF INDOLENT NON-HODGKIN'S LYMPHOMAS 40	<i>Shevchenko A., Syusyuka V., Krut` Y., Kyrlyiuk A., Deynichenko O., Onopchenko S.</i> PRETERM LABOR IN MODERN OBSTETRICS 45

PEDAGOGICAL SCIENCES

<i>Mukanova R., Iskakova G.</i> CRITERION ASSESSMENT AS A NEW APPROACH OF ASSESSMENT IN A MODERN SCHOOL 52	<i>Kulmagambetova S., Tolegen A.</i> USING A COGNITIVE APPROACH IN TEACHING FOREIGN LANGUAGES IN GRADES 9-11 65
<i>Kulmagambetova S., Kitym G.</i> EFFECTIVENESS OF USING COMPUTER TECHNOLOGIES IN THE PROCESS OF TEACHING A FOREIGN LANGUAGE AT THE SENIOR STAGE OF SECONDARY SCHOOL 58	<i>Dzhusubalieva D., Utetleuova A.</i> METHODS OF FORMATION OF REFLEXIVE AND DEVELOPING COMPETENCE OF STUDENTS IN FOREIGN LANGUAGE LESSONS USING WEB TECHNOLOGIES 68
<i>Kismetova G., Mashzhanova A.</i> TECNOLOGY OF PROBLEM-BASED LEARNING AS A WAY OF DEVELOPING EDUCATIONAL AND COGNITIVE ACTIVITIES IN ENGLISH LESSONS 62	

TECHNICAL SCIENCES

<i>Cozac E.</i> APPLICATION OF ARTIFICIAL NEURAL NETWORK FOR FORECASTING INTERNATIONAL FINANCIAL MARKETS 72	<i>Blahopoluchna A., Liakhovska N., Povorozniuk I., Barvinok N.</i> HACCP SYSTEM IN THE RESTAURANT INDUSTRY 76
--	---

Prospects for further work are the development of an intellectual system for predicting economic activity of an enterprise based on artificial neural networks.

References

1. Savka N.Ya. (2019). Artificial neural networks with radially baseline functions for modeling financial security indicators. Inductive modeling of complex systems: Sb. Science, 11, P. 95-102.
2. Shepherd O. (2019). Using neural networks to ensure the effectiveness of industrial enterprises in the process of their internationalization. Galitsky Economic Bulletin. T.: TNTU, Tom 58, 3, P. 121-129.
3. Burleyev, O. L., Vasilenko, O., Ivanenko R. M. (2021). Efficiency of the use of artificial neural networks in the economy. Economics and society, 31.
4. Denisov, A., Richkova, L. (2021). Use of artificial neural networks in the risk management system. Electronic scientific professional publication "Adaptive Management: Theory and Practice" Series "Economics", 11 (22).
5. Spido-Nosik N.N., Mazutynets G.V. (2020). Application of artificial neural networks to analyze the level of financial security companies. Scientific Bulletin of Uzhgorod University. Series Economics, 1 (55), 112-117.
6. Mozolevskaya M.O., Stavitsky O.V. (2017). Using neural networks to predict in the financial sector. Actual Problems of Economics and Management, 11, URL: <http://ape.fmm.kpi.ua/article/view/102584>.
7. Siriopoulos, Costas & Markellos, Raphael & Sirlantzis, Konstantinos. (2022). Applications of artificial neural networks in emerging financial markets. – URL: https://www.researchgate.net/publication/266273741_Applications_of_artificial_neural_networks_in_emerging_financial_markets
8. Armutlulu, İsmail & Serhadlioglu, Gürkan. (2020). A purposed application of artificial neural networks in financial forecasting. Öneri Dergisi. 23-27. 10.14783/maruoneri.733012.
9. Moon, Kaleem & Siddiqui, Shahan & Shoaib, Bilal & Abbas, Irfan & Khan, Abdul & Irshad, Muhammad & Farooq, Muhammad. (2020). Study of Applications of Artificial Neural Networks. 4. 1-11.
10. Gorekore, Kelvin. (2022). Artificial neural networks in complex financial markets. – URL: https://www.researchgate.net/publication/265145629_
11. Okasha, Mahmoud & Yassen, Assem. (2013). The Application of Artificial Neural Networks In Forecasting Economic Time Series. International Journal of Statistics and Analysis (IJSA). 3. 257-277.
12. Del Rosso, Maria Pia & Ullo, Silvia & Sebastianelli, Alessandro & Spiller, Dario & Puglisi, Erika & Biondi, Filippo & Orlando, Danilo. (2021). Artificial neural network. 10.1049/PBTE098E_ch4.
13. Egrioglu, Erol & Yolcu, Ufuk & Bas, Eren & Dalar, Ali. (2019). Median-Pi artificial neural network for forecasting. Neural Computing and Applications. 31. 1-10. 10.1007/s00521-017-3002-z.
14. Marzi, Hosein & Turnbull, Mark. (2007). Use of Neural Networks in Forecasting Financial Market. Proceedings - 2007 IEEE International Conference on Granular Computing, GrC 2007. 516-516. 10.1109/GrC.2007.78.
15. Maeda, Iwao & Matsushima, Hiroyasu & Sakaji, Hiroki & Izumi, Kiyoshi & deGraw, David & Kato, Atsuo & Kitano, Michiharu. (2021). Predictive Uncertainty in Neural Network-Based Financial Market Forecasting. International Journal of Smart Computing and Artificial Intelligence. 5. 10.52731/ijsc.v5.i1.541.
16. Khan, Sayyid Iskandar. (2020). Application of neural network for trading financial markets. 10.13140/RG.2.2.10035.04643. – URL: https://www.researchgate.net/publication/346987383_APPLICATION_OF_NEURAL_NETWORK_FOR_TRADING_FINANCIAL_MARKETS

HACCP SYSTEM IN THE RESTAURANT INDUSTRY

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ABSTRACT

The article is devoted to the problem of implementation of HACCP systems in restaurants of Ukraine for compliance with current legislation and gaining competitive advantages in the hospitality industry.

Keywords: HACCP system, restaurant business, food safety, critical control points.

Formulation of the problem. The main task of the HACCP system is the analysis of hazards and the gradual control of all stages of cooking and food, from the receipt of products in the warehouse to the time of serving the finished dish. The introduction of a food safety management system at the enterprise is a long process that affects all services and all staff. It is not limited to the development of documentation, algorithms for performing certain procedures, replacement of technological processes, production equipment, review of suppliers of raw materials or redevelopment of premises. The most important thing is that in the process of implementing the system the psychology of employees at all levels is changing, there is an awareness of the importance of issues related to product safety, an understanding of what a modern restaurant should be. The norm on the introduction of HACCP in restaurants has become mandatory. Failure to comply with current legislation on the implementation of permanent procedures based on the principles of the HACCP system entails the imposition of a fine. During the introduction of this system by restaurants, many problems have arisen that need to be clarified and resolved

Analysis of recent research and publications.

HACCP - Hazard Analysis and Critical Control Point) - a system of analysis of risks, hazards and control of critical points. The HACCP system is scientifically sound, which guarantees the production of safe products by detecting and controlling hazards [1].

The concept of HACCP was developed in the 1960s. Major developers: Pillsbury, the US Laboratory and the National Aeronautics and Space Administration (NASA). The idea to create such a concept arose while working on the American Space Program. While working on the US space program, NASA aimed to eliminate the formation of toxins in food consumed by astronauts in space and, as a result, to prevent diseases caused by poor quality food. HACCP provides measures to ensure the required level of product safety indicators in the process of its production, and in those critical points of the technological process, where there may be a threat of hazardous factors. The system allows you to identify all potentially dangerous factors in the food product and prevent their occurrence [2-5].

1971 - Pillsbury presents the fully developed HACCP concept at the First American National Conference on Food Safety. At the 25th meeting of the Committee on Food Hygiene (1991), the document "General HACCP Definitions and Procedures for the Application of the Code" was adopted. The Committee agreed that the HACCP system should be included in

the Code, taking into account the general principles of food production [6].

The most important EU piece of legislation regulating the scope of HACCP is Directive 93/43 / EEC on the hygiene of foodstuffs. It is used in all companies that work with food. The application of the directive has been mandatory for EU member states since December 14, 1995. With this directive, the principles of HACCP and the basic principles of food hygiene have been integrated into European legislation [7].

The International Organization for Standardization has prepared a draft international standard "Food Safety Management Systems. Requirements "(ISO 22,000). The use of HACCP systems in some countries is regulated by national laws and regulations. ISO 22000: 2005 "Food safety management systems - Requirements for any organization in the food chain" (Food safety management systems) has become an international standard that establishes uniform requirements for HACCP systems harmonized with the standards of quality management, environmental management and adapted to certification. Requirements for any food chain organizations), published in 2005 [8-10].

The purpose of the work. The purpose of the work is a detailed coverage of the principles of operation and technology of implementation of the HACCP system in the restaurant industry

Results.

On September 20, 2019, the provisions of the Law of Ukraine "On Amendments to Certain Legislative Acts on Food Products" on the mandatory introduction of the HACCP system (Hazard Analysis and Critical Control Points) for small capacities - the last category of market operators, engaged in activities with food products that contain unprocessed ingredients of animal origin (chicken eggs, meat and poultry, honey, etc., which have not been subjected to heat treatment). These include restaurants, cafes, bars, eateries, cooking, confectionery, canteens, cafeterias, kiosks or other fast food and beverage establishments [11].

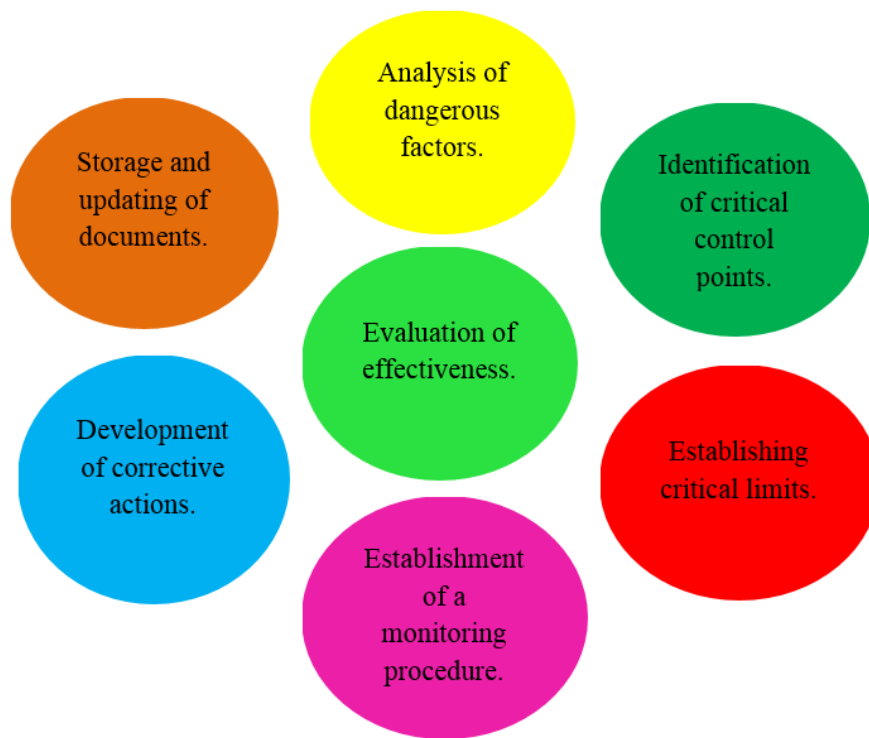
A restaurant is a small capacity if it collectively meets the following criteria:

- supplies food to the final consumer,
- has no more than 10 employees,
- occupies an area of not more than 400 sq.m.

In restaurants, most violations health problems associated with human error due to free preparation and serving of food. Common problems violations include incorrect temperature food retention and inadequate hygienic practices, improper sanitary facilities to the most popular food safety violations products [12].

Program for the implementation of the HACCP system

HACCP system program	Proper planning of industrial, ancillary and domestic premises to avoid cross-contamination.
	Requirements for the condition of premises, equipment, repair work, equipment maintenance, calibration, etc., as well as measures to protect food from contamination and impurities.
	Requirements for planning and condition of communications - ventilation, water supply, electricity and gas supply, lighting, etc.
	Safety of water, ice, steam, auxiliary materials for processing (processing) of food, objects and materials in contact with food.
	Cleanliness of surfaces (procedures for cleaning, washing and disinfection of industrial, auxiliary and domestic premises and other surfaces).
	Staff health and hygiene.
	Management of industrial waste and garbage, their collection and disposal.
	Pest control, species identification, prevention, prevention and control.
	Storage and use of toxic compounds and substances.
	Specifications (requirements) for raw materials and control of suppliers.
	Storage and transportation.
	Control over technological processes.
Food labeling and consumer information.	



The implementation of the HACCP system should begin with an analysis of production and ancillary flows. They must be organized in such a way as to avoid cross-contamination (contamination of foodstuffs with chemical, biological or physical hazards through air, water, people, other foodstuffs, processing aids, articles and materials in contact with foodstuffs). The flow of production processes is organized in such a way as to ensure their physical separation or separation over time. Physical separation of production processes requires proper infrastructure. Separation of production processes over time requires staff discipline and description of processes. Avoidance of cross-contamination is a combination of flow separation that can adversely affect product safety physically and over time [13].

Studies have shown that implement HACCP in restaurants is a difficult task pretending. The barriers that have been identified include a variety of products and culinary procedures, lack of proper management equipment and tools, staffing issues such as lack of education and high turnover with small volumes of procurement, lack of time for employees and the head of the institution, insufficient level of knowledge employees and the head of food safety products and lack of training materials.

As it turned out, financial resources are a major issue for obstacles to the implementation of this system, because catering establishments operate at a relatively low rate of return, and implementation and training programs must be cost-effective.

Industries need to carefully estimate the cost of implementation of HACCP compared to expected years; this assessment would provide tools for adoption sound decisions on HACCP programs. To do this, calculate the index DALY - years of life, adjusted for disability (abbr. from "Disability-adjusted life year") - an indicator that evaluates total "burden of disease" [14].

$$\text{DALY} = \text{YLL} + \text{YLD}$$

YLL - expected (average) number of lost years of life. Calculated on the basis of life expectancy at the time of death;

YLD - expected (average) number of lostworking life;

YLD - the number of years of illness before remission or death, * severity of disability for a particular disease.

One DALY can be considered one lost year of healthy living. The amount of DALY among the population whether the burden of disease can be considered as a measurement the gap between the current state of health and the ideal health situation where the whole population lives to old age without diseases and disabilities.

The implementation of HACCP in a public catering establishment primarily involves the development of basic sanitation programs, respectively to the requirements of current legislation, which should cover the necessary measures for personal hygiene of personnel, cleaning, washing and disinfection of kitchen equipment (including hoods), inventory and utensils, pest control, storage of raw materials and ingredients, waste disposal.

Following stage includes a description of all technological processes, relating to preparation, storage and sale dishes, as well as the identification and assessment of potential hazards and the selection of critical control points. Example such as reception and storage of raw materials, heat treatment of products, temperature, storage conditions and the expiration date of ready meals, packaging or supply of finished products. In addition, monitoring procedures and corrective actions should be defined exceeding the limit values at control points, verification procedures, as well as those responsible under HACCP procedures during production and circulation food products. The implementation of HACCP is

designed to help restaurants identify all the dangerous factors that could pose a potential threat to life and health of consumers.

To solve the problems in the implementation of HACCP in restaurants, a logical sequence of strategy for the implementation of this system was developed.

The first stage	Collection of information
The second stage.	Identification of obstacles and their causes
The third stage.	Development and selection of possible solutions.
The fourth stage.	Strategy development and consultation
The fifth stage	Determining the potential impact of the strategy.
The sixth stage.	Finalization and improvement of the strategy
The seventh stage	Monitoring results and feedback.
The eighth stage	Implementation in test mode.
The ninth stage.	View and fix bugs as needed

Conclusion. It is established that the introduction of a system of control of critical points in restaurants is accompanied by many problems. The first problem is the financial inability to implement all seven strategic principles of the HACCP system that are required. The second problem is the lack of a logical system for implementing HACCP. Therefore, to solve the first problem, it is necessary to involve partners for financial support of the institution. To solve the second problem, a logical scheme of the HACCP system implementation strategy in restaurant establishments is presented.

References

- Rosak-Szyrocka, J., & Abbase, A. A. (2020). Quality management and safety of food in HACCP system aspect. *Production Engineering Archives*, 26.
- Rifqie Mariana, R., Hidayati, L., & Soekopitojo, S. (2019). Implementing the HACCP system to the production of Bakso Malang-Indonesia. *Journal of Culinary Science & Technology*, 17(4), 291-312.
- Alibekov, R., Dabadé, D. S., Urazbayeva, K., Orymbetova, G., & Alibekova, Z. (2019). Food safety and HACCP system in the PHYSALIS confiture production. *Известия НАН РК. Серия химических наук*, (4), 6-11.
- Normamatovich, F. P., Kh, S. I., Bulyayev, Z. K., Akhnazarovich, M. G., & Malikov, Z. M. (2021). RATIONALE FOR THE APPLICATION OF THE HACCP SYSTEM IN THE PRODUCTION OF FUNCTIONAL FOOD PRODUCTS. *European Journal of Molecular & Clinical Medicine*, 8(3), 1535-1539.
- Mortimore, S., & Wallace, C. (2013). HACCP: A practical approach. Springer Science & Business Media.
- Fotopoulos, C., Kafetzopoulos, D., & Gotzamani, K. (2011). Critical factors for effective implementation of the HACCP system: a Pareto analysis. *British Food Journal*.
- Soman, R., & Raman, M. (2016). HACCP system-hazard analysis and assessment, based on ISO 22000: 2005 methodology. *Food control*, 69, 191-195.
- Stanley, R., Knight, C., & Bodnar, F. (2011). Experiences and challenges in the development of an organic HACCP system. *NJAS-Wageningen Journal of Life Sciences*, 58(3-4), 117-121.
- Osimani, A., Aquilanti, L., Tavoletti, S., & Clementi, F. (2013). Evaluation of the HACCP system in a university canteen: Microbiological monitoring and internal auditing as verification tools. *International journal of environmental research and public health*, 10(4), 1572-1585.
- Milios, K. D. E. Z. P., Drosinos, E. H., & Zoiopoulos, P. E. (2012). Factors influencing HACCP implementation in the food industry. *Journal of the Hellenic Veterinary Medical Society*, 63(4), 283-290.
- <https://dpss.gov.ua/bezpechnist-harchovih-produktiv-ta-veterinarna-medicina/sistema-haccp>
- <https://mon.gov.ua/ua/osvita/zagalna-serednya-osvita/shkilne-harchuvannya/standarti-nassr>
- <https://uk.wikipedia.org/wiki/HACCP>
- Petrovskaya, I., Mital, O., & Mital, S. (2020). Implementation of haccp system in fast food establishments. State and regions. Series: Economics and Business, 1(112), 119-124.

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