ВЛАСТИВОСТІ ТА ЯКІСТЬ ТОВАРІВ І ПОСЛУГ

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Hryhorenko O.M., Cand. Sc. (Tech.), Assoc. Prof. Kiev National University of Trade and Economics (Kyiv, Ukraine), e-mail: agm_x64@mail.ru

THE RISKS OF NONRATIONAL NUTRITION, AND THE SCIENTIFIC METHODS OF FOOD PRODUCTS QUALITY' EVALUATION IN SPHERE OF CATERING TRADE

Григоренко О.М., канд. техн. наук, доц. Київський національний торговельно-економічний університет (Київ, Україна), e-mail: agm_x64@mail.ru

РИЗИКИ НЕРАЦІОНАЛЬНОГО ХАРЧУВАННЯ ТА НАУКОВІ МЕТОДИ ОЦІНЮВАННЯ ЯКОСТІ ХАРЧОВИХ ПРОДУКТІВ У СФЕРІ РЕСТОРАННОГО ГОСПОДАРСТВА

Objective. *The goals of our study were following: to determine the likely risks of nonrational nutrition, and highlights characteristics that helps to evaluate the quality of the product in the catering trade industry; to analyze existing methods for evaluation food quality and work out authorial approach to the evaluation of catering trade' products quality considering beneficial consumer' effect and sensory characteristics.*

Methods. *Calculation method, sociological and expert methods for determination of basic nutrients and their importance for different groups and subgroups of food and drinks in terms of their impact on quality.*

Results. *Nonrational nutrition can impair our daily health and wellbeing and reduce our ability to lead an enjoyable and active life. Nowadays there are three types of imbalances in the diet of the Ukraine' population: quantitative; technology; socio-cultural. In the short term, nonrational nutrition can contribute to stress, tiredness and our capacity to work, and over time, it can contribute to the risk of developing some illnesses and other health problems.*

Scientific novelty and practical value. *Methods that are used in the investigation of food quality depending on their functionality should be divided into the following groups: analytical methods used for quality determination and for the determination the basic food ingredients; methods of quality control. Made a conclusion that defining the integral indicator of product quality as a key indicator of catering trade establishment' competitiveness should allocate four groups of indicators: sensory, stability, welfare, food value. An authorial approach to the evaluation of catering trade' products quality considering its beneficial effect and sensory characteristics (tasty, smell and others features) is proposed. It is proved that new approach will get more objective assessments of quality and will compare the products of different product groups and subgroups.*

Directions of further researches: *the results of this investigation could be used in the development of a completely new culinary products (with modeling its quality characteristics) and for the further development of scientific approaches to the evaluation of the competitiveness of catering trade' products.*

Key words: *nutrition, quality, risk, dishes, beverages, evaluation method, nutrients, beneficial effect, product, nutrition value, sensory characteristics.*

Introduction. Recently, more attention around the world has paid to the health of the population which is directly related to the quality of its food. Problematic aspects of nutrition are addressed both within some countries and regions and to the international community (particularly the Millennium Summit, held in Johannesburg in September 2002, on the 55th (2002) Session of the World Health Assembly, etc.). Providing high quality nutrition along with other important issues for human life, recognized as the most significant and global, the solution of which requires the consolidation of efforts at the international, national and regional levels [1] and is associated with the development of the science of nutrition (trophology).

As above already described updates the investigation of human needs in proteins, fats, carbohydrates, micro-and macronutrients, vitamins, dietary fiber, etc. depending on the conditions of life and work. Some issues of this problem highlighted in our previous studies [2; 3, etc.] and in the research works of L. Kaprelyantsa and K. Iorhachovoyi [4], L. Shchelkunov, M. Dudkin and V. Korzun [5], L. Ivashkiv [6] and others.

It is equally important to investigate the aspects of the evaluation quality and capacity of various food products to meet different needs of the population (including nutrients), which states in the research works V. Kantere [7], G. Lolessa and H. Heymann [8], K. Orest, O. Boyko, A. Hunkalo [9] and others. However, we note that to this day in the evaluation of catering trade' products quality still not paid due attention to the different weight of the main nutrients of food and beverages. In our view further developments need the methodological approaches to the evaluation of food quality, which would take into account both the visible and the invisible for consumers value characteristics.

The **objectives** of our investigation are: 1) to determine the likely risks of nonrational nutrition, and highlights characteristics that helps to evaluate the quality of the product in the catering trade industry, and 2) an analysis of existing methods for evaluation food quality and work out authorial approach to the evaluation of catering trade' products quality considering beneficial consumer' effect and sensory characteristics (tasty, smell and others features).

Main results of the research. Taking in attention that the modern realities of Ukraine's population accompanied by a decrease of physical activity on a background low food culture and the diffusion of new technologies of food raw materials, which sometimes did not increase, but rather decrease the biological value of food, we can identify the following key imbalances, which negatively affects the quality of human nutrition:

– quantitative imbalance in dietary needs arising due to decreased physical activity;

– technological imbalances in the food quality, the cause of which are modern processing technology;

– social and cultural imbalance as a dietary pattern that is associated with low culture of nutrition.

Nonrational nutrition can impair our daily health and wellbeing and reduce our ability to lead an enjoyable and active life. In the short term, nonrational nutrition can contribute to stress, tiredness and our capacity to work, and over time, it can contribute to the risk of developing some illnesses and other health problems such as: being overweight or obese; tooth decay; high blood pressure; high cholesterol; heart disease and stroke; type-2 diabetes; osteoporosis; some cancers; depression; eating disorders; etc.

To avoid the risks of nonrational nutrition and the aforementioned imbalances, foods consumed by the population should be of high quality. This tasks we must set for enterprises of spheres that produce these products (including the catering trade).

In Ukraine, according to GOST 2925-94 «Quality of product. Evaluation of quality. Terms and definitions» [10], are used the following methods to evaluate the quality of products: differentiated; measurement; complex; sensory; registration; calculation; sociological; statistical; expert; mixed. The main methods of evaluation the quality of culinary products in

establishments of catering trade, according to the «Guidelines to ensure the quality and safety of goods and services of catering trade' enterprises» [11] are: sensory; measurement (laboratory), calculation; sociology; expert.

The analysis of the application different methods in practice revealed their features.

Thus, the *sensory method* involves determining the quality of culinary products and confectionery products based on sensory analysis and the perception of the senses (sight, smell, taste, touch). Accuracy and reliability of results when using this method depends on the skills and qualifications of those who use it, and the possibility of using special equipment.

Measuring (laboratory) method based on the use of technical equipment for measurement. It includes the following research methods: physical, physico-chemical, chemical, microbiological.

The basic principles of *instrumental evaluation* of food quality include: representativeness of the sample batch of products; availability of technical equipment for measurement; precision, and reliability measurements; reliability; comparability of measurement results.

Calculation method – a method of evaluation the quality of products based on the calculation of the indicators of quality, which obtained by the calculation method. It is used to determine the chemical composition of dishes, culinary, pastry and bakery products, for calculating the energy value of food and culinary products for calculation balance diet.

Sociological method – the method for determining the quality of products, carried out on the basis of collecting, processing and analyzing opinions actual or potential consumers (or experts). Gathering information for the application of this method is either by verbal questioning or by distributing questionnaires and through the organization of conferences, exhibitions, auctions, etc.

Expert method – is a set of logical and mathematical procedures, the implementation of which is to obtain information from qualified specialists (experts) on the issue under study, processing the information obtained by the methods of mathematical statistics, obtaining rational decisions. This method is used in cases where performance quality can not be defined more objective methods.

At the same time, we believe that the methods are used in the investigation of food quality depending on their functionality should be divided into three groups:

1) analytical methods used for quality determination;

2) analytical methods for the determination of basic food components (ingredients);

3) methods of quality control (fig. 1).

Evaluation of the products' quality is based on the certain system parameters. In accordance with the aforementioned Guidelines [11], quality of culinary products in the catering trade' establishments must be evaluate on the following parameters: storage; tasty, smell and others sensory features; physical; physical-chemical; the service level. In general agree that these indicators play an important role in evaluation and monitoring the quality of culinary products, we believe that in terms of the integral consideration of products' quality, as a key indicator of the competitiveness of catering trade' establishments, the system sets of indicators must to be somewhat different (table 1). To the our point of view, the indicator of the level of service, should be considered as an indicator of the service' quality in the catering trade' establishment and not included in this system. Moreover, given the weaknesses in the application of the methods above, as well as a variety of food and beverage manufacturing in catering trade' establishments, we are recommended pay special attention to the most important nutrient' components that are specific for the different assortment' groups of products during the process of evaluating their quality.

Our investigation is revealed the basic nutrients and their importance for different groups and subgroups of food and drinks in terms of their impact on quality (table 2-5).

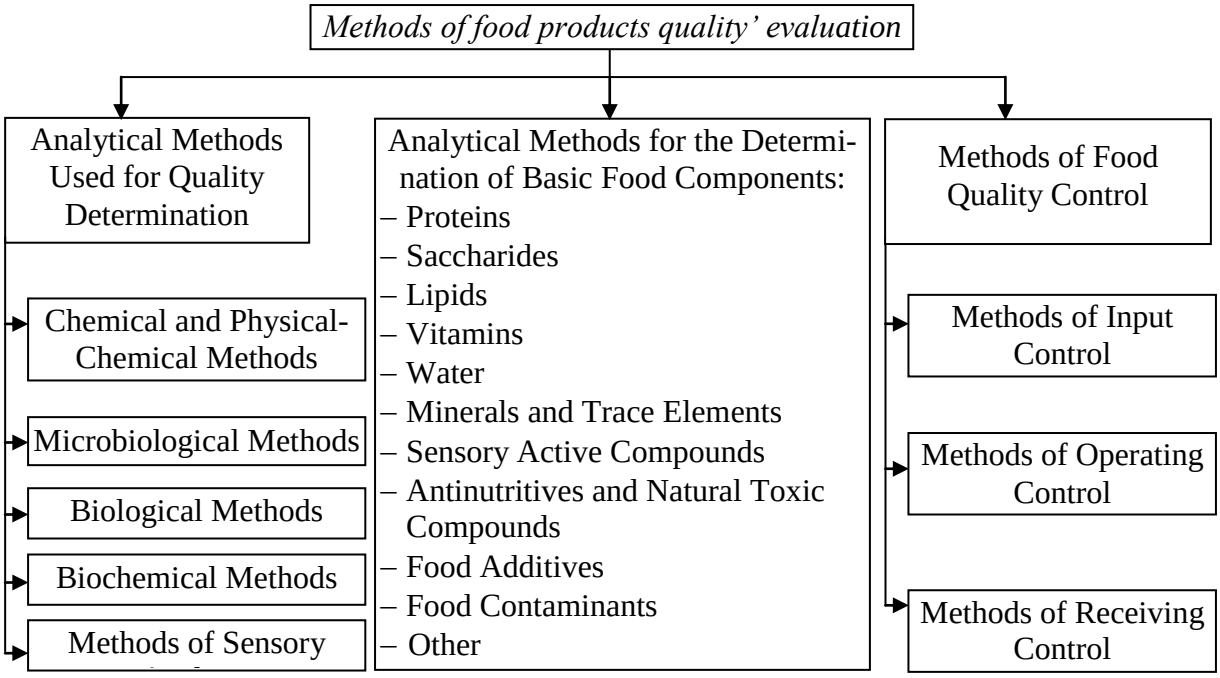


Figure 1 – Classification of methods for food products quality' evaluation by the functional purpose

Table 1 – Groups of indicators of catering trade' products quality

Groups of quality' indicators	Indicators
Sensory qualities or eating quality (Q_E)	Appearance Texture Smell (or flavour) Taste Viscosity
Stability (Q_S)	Shelf-life Quality retention
Wholesomeness (Q_W)	Purity Safety
Nutrition value (Q_{NV})	Nutrient Content Nutrient Availability Caloric Value

Note that the weight of these factors have been established on the basis of the author's own research and results of interviews with experts and specialists in the field of physiology of nutrition.

The most significant, as illustrated by the table 2, from the standpoint of quality food under cold meals and snacks made from raw materials of animal origin have proteins (importance of this factor in different subgroups ranged from 0,25 to 0,30), and sulfur-containing amino acids (weight set between 0,20 to 0,22). The significance of the impact of various nutrients in the subgroup of vegetable dishes and snacks except those made from algae, were evaluated as in the same subgroup dishes. At the same time found that sea vegetables, snacks, except for carbohydrates and fiber, to be rich in vitamin C (weight 0,17), calcium (weight 0,16) and iodine (0,14 significance).

Table 2 – Weight' coefficients of the main nutrients of different subgroups cold meals and snacks for an objective evaluation of their quality nutrition value

Nutrients	With meat, poultry, eggs	With fish and non-fish seafood	Milk and cheese	Vegetable	
				sea	other
Protein	0,25	0,20	0,30	–	–
Fats	0,15	0,13	0,12	–	–
Carbohydrates	–	–	–	0,20	0,20
Cellulose	–	0,09	–	0,18	0,18
The sulfur content of essential amino acids (methionine, cystine, cysteine)	0,20	0,17	0,22	–	–
Calcium	0,15	0,06	0,15	0,16	–
Iron	0,15	–	–	–	–
Phosphorus	–	0,13	–	–	–
Iodine	–	0,13	–	0,14	–
Potassium	–	–	–	–	0,14
Magnesium	–	–	0,11	–	0,16
Vitamin C	–	–	–	0,17	0,17
Calories	0,10	0,09	0,10	0,15	0,15
Sum of coefficients	1	1	1	1	1

Table 3 – Weight' coefficients of the main nutrients of different subgroups first dishes (soups) for an objective evaluation of their quality nutrition value

Nutrients	Meat	Fish	Vegetable	Cereal and pasta	
				milk	other
The dry residue	–	–	0,25	0,20	–
Protein	0,25	0,25	–	0,20	–
including milky	–	–	–	0,10	–
The sulfur content of essential amino acids (methionine, cystine, cysteine)	0,20	0,20	–	–	–
Fats	0,15	0,15	–	–	–
Carbohydrates	–	–	0,15	0,10	0,18
Cellulose	–	–	0,18		0,13
Calcium	0,15	–	–	0,15	–
Iron	0,15	–	–	–	–
Phosphorus	–	0,15	–	–	–
Iodine	–	0,15	–	–	–
Vitamin B_1	–	–	–	0,13	0,15
Vitamin B_2	–	–	–	0,12	0,12
Vitamin B_6	–	–	–	–	0,10
Vitamin PP	–	–	–	–	0,12
Vitamin C	–	–	0,12	–	–
Beta-carotene	–	–	0,10	–	–
Calories	0,10	0,10	0,20	–	0,20
Sum of coefficients	1	1	1	1	1

Analysis of nutrients showed that their importance depends primarily on the type of the staff from which food is prepared (table 3). Apart from these, there are certain characteristics that must be considered evaluating quality of this product line.

Table 4 – Weight' coefficients of the main nutrients of different subgroups main (second) dishes for an objective evaluation of their quality nutrition value

Nutrients	With meat, poultry, eggs	Fish	Vegetable	Milk and cheese	Flour (pancakes, dumplings) stuffed with				Cereals and pasta
					Animal origin			Plant origin	
					Meat	Fish	Cheese		
Protein	0,20	0,19	–	0,240	0,13	0,130	0,110	–	0,09
Lactose of milk	–	–	–	0,080	–	–	–	–	–
Fats	0,12	0,11	–	0,100	–	–	–	–	–
Carbohydrates	–	–	0,20	–	–	–	0,160	0,20	0,16
Cellulose	–	–	0,18	–	–	–	–	0,15	0,12
The sulfur-containing amino acids (methionine, cystine, cysteine)	0,16	0,15	–	0,170	0,11	0,066	0,110	–	–
Calcium	0,12	0,08	–	0,120	0,12	0,057	0,120	–	–
Iron	0,12	0,08	–	0,005	0,12	0,057	0,010	–	–
Phosphorus	0,10	0,11	–	0,080	0,09	0,120	0,090	–	–
Iodine	–	0,11	–	0,020	–	0,120	–	–	–
Sugars	–	–	–	0,015	–	–	–	0,12	–
Potassium	0,10	0,09	0,14	0,080	–	–	–	0,10	–
Magnesium	–	–	0,16	0,090	–	–	–	–	–
Vitamin C	–	–	0,17	–	–	–	–	–	–
Vitamin B1	–	–	–	–	0,12	0,120	0,097	0,12	0,14
Vitamin B_2	–	–	–	–	0,11	0,110	0,103	0,11	0,11
Vitamin B_6	–	–	–	–	–	–	–	–	0,09
Vitamin PP	–	–	–	–	–	–	–	–	0,11
Calories	0,08	0,08	0,15	–	0,22	0,220	0,200	0,20	0,18
Sum of coefficients	1	1	1	1	1	1	1	1	1

Table 5 – Weight' coefficients of the main nutrients of different desserts and beverages for an objective evaluation of their quality nutrition value

Nutrients	Desserts	Beverages
Carbohydrates	0,26	0,20
Pectin	0,22	–
Ash	0,13	–
Minerals	–	0,27
Potassium	0,09	–
Vitamins	–	0,27
Vitamin C	0,17	0,06
Calories	0,13	0,20
Sum of coefficients	1	1

First, the evaluation of vegetable and milk soups recommend to consider dry residue (weight of 0,2 to 0,25.) Second, the presence of beta-carotene and vitamin C have significance in evaluating vegetable soups (weight 0,1 and 0,12, respectively). Thirdly, in dairy soups important is not only the presence of protein (weight 0,2), but also calcium (0,07 significance).

Considering, that in evaluating the quality of other foods from raw materials of animal origin significant place should be given protein and sulfur-containing amino acids, plant origin – carbohydrates and fiber (table 4). Main (second) dishes with meat, poultry, eggs, fish, milk and cheese are important to humans in terms of supply of fat; dishes with meat, poultry and eggs – calcium and iron; dishes with fish – phosphorus and iodine, dishes with vegetables – potassium, magnesium and vitamin C; dishes with dairy cheese products – protein, calcium, phosphorus and magnesium; flour, cereals, pasta dishes – vitamins of group B. All main dishes are important to replenish the body's energy reserves.

In evaluating the desserts, as we see from table 5, important are carbohydrates, pectin, vitamin C, potassium and ash. In evaluating the drinks important are carbohydrates and the total amount of minerals and vitamins.

Given the established importance of nutrients different dishes and beverages, group index of nutritional evaluation within quality catering trade' establishment shall be determined by:

– preliminary differentiation of dishes and drinks for the product groups and subgroups;

– analysis of the nutrients' composition of different types of food or beverage product lines within subgroups (or groups);

– final counting of the quality score of nutrition value products using the formula:

$$Q_{NV} = \sum_{з=1}^{2} \frac{N_з}{\sum_{з=1}^{2} N_з} \cdot \alpha_з , \qquad (1)$$

where i – code of nutrients;

I – number of the main nutrients of dish or beverage;

N_i – the amount of the i-th nutrient in the dish or beverage;

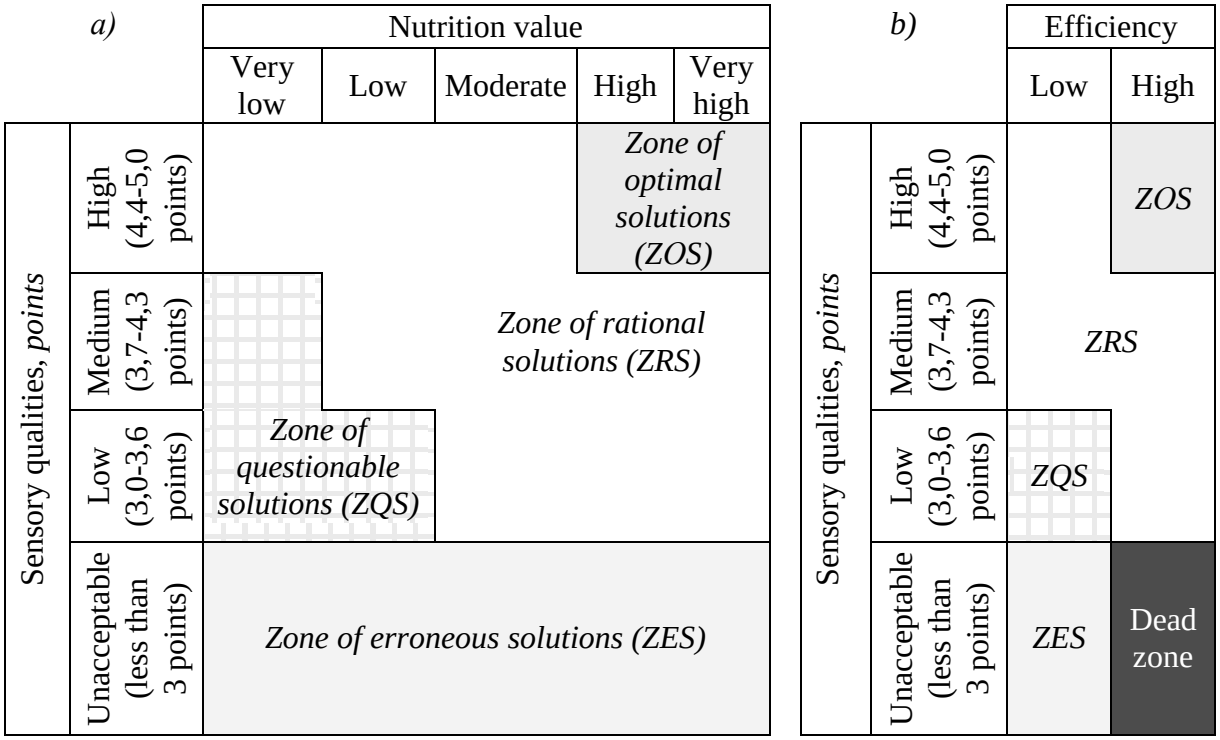
α_i – the weight's coefficient of the i-th nutrient' influence to the consumer' quality of the dishes or beverages with given its membership in a particular product groups (subgroups).

According to the described already above methodological approach to defining quality of catering trade' products, provides correct comparison of the nutrition value of different kinds of dishes or beverages within both one and different product lines of assortment. This is made possible through the use of a modified differential approach for different resources composition of products for which identified the most important nutrients.

However, given the importance of sensory qualities of catering trade' products, we are offering to evaluate the quality of the product using the matrix method and developed matrix, that proposed by us: «Sensory qualities – Nutrition value» (fig. 2 *a*) or counting integral indicator of the quality of catering trade' products (Q), in which will be considered everyone indicators from the table 1:

$$Q = \sqrt[4]{Q_E \cdot Q_S \cdot Q_W \cdot Q_{NV}} . \qquad (2)$$

Considering the cost characteristics of the products in evaluating its quality, we can be slightly modified shown in fig. 2 *a* matrix. For this offer, instead of using the parameter nutrition value of parameter production efficiency by calculating the ratio of its useful effect to the consumer (which is recommended to determine by the nutrition value) and the total cost of production and sale of products (fig. 2 *b*).



a) «Sensory qualities – Nutrition value»; b) «Sensory qualities – Efficiency»

Figure 2 – Models for evaluating the food products quality in catering trade:

Conclusions and directions of further researches.

According to the results of the investigation we could make next conclusions:

1. Nonrational nutrition can impair our daily health and wellbeing, reduce our ability to lead an enjoyable and active life. In contrast, the good nutrition, based on healthy eating is one essential factor that helps us to stay healthy and be active.

2. Nowadays we could observe three types of imbalances in the diet of the Ukraine' population: through quantitative imbalance in the amount of energy and volume of products consumed for their recovery; technology through the use of technologies that contribute to the production of foods with low physiological value; socio-cultural dominance of low culture through food and poor awareness about the nutrition value of different dishes and beverages.

3. Methods that are used in the investigation of food quality depending on their functionality should be divided into the following groups: analytical methods used for quality determination; analytical methods for the determination the fundamental (basic) food components (ingredients); methods of quality control.

4. Defining the integral indicator of product quality as a key indicator of catering trade establishment' competitiveness should allocate four groups of indicators: sensory, stability, welfare, food value.

5. Practical application developed new approaches to the evaluation of catering trade' products quality will get more objective assessments of quality and will compare the products of different product groups and subgroups.

We believe that the results of this investigation could be used in the development of a completely new culinary products (with modeling its quality characteristics) and for the further development of scientific approaches to the evaluation of the competitiveness of catering trade' products.

Список літератури / References:

1. Про затвердження Концепції поліпшення продовольчого забезпечення та якості харчування населення: Розпорядження Кабінету Міністрів України від 26 трав. 2004 р. № 332-р. [Електронний ресурс]. – Режим доступу: <http://zakon4.rada.gov.ua/laws/show/332-2004-%D1%80>.
   Cabinet of Ministers of Ukraine (2004), The Order "Pro zatverdgennya Konceptsii polipshennia prodovolchogo zabezpechennia ta yakosti kh archuvannia naselennia" [On Approval of the Concept of improving food ensuring and quality of nutrition for population], no. 332, May 26, available at: http:// zakon4.rada.gov.ua/ laws/show/332-2004-%D1%80.
2. Григоренко О.М. Розробка продуктів харчування, збагачених мікроелементами, як засіб вирішення проблеми гіпер- і гіпомікроелементозів / О.М. Григоренко // Вісник ДонНУЕТ. – 2013. – № 1(57). – С. 33-41.
   Hryhorenko, O.M. (2013), "Development of food products enriched with microelements as a means of hyper- and hipomikroelementoz problems solution", *Visnyk DonNUET*, no. 5(57), pp. 33-41.
3. Григоренко О.М. Роль вітамінів у харчуванні людини / О.М. Григоренко // Харчова наука і технологія. – 2010. – № 3(12). – С. 33-36.
   Hryhorenko, O.M. (2010), "The role of vitamins in human nutrition", *Kharchova nauka i tekhnolohiia*, no. 3 (12), pp. 33-36.
4. Капрельянц Л.В. Функціональні продукти: монографія / Л.В. Капрельянц, К.Г. Іоргачова. – О.: Друк, 2003. – 312 с.
   Kapreliants, L.V. and Iorhachova, K.H. (2003), *Funktsionalni produkty* [Functional foods], Druk, Odesa, Ukraine, 312 p.
5. Щелкунов Л.Ф. Пища и экология / Л.Ф. Щелкунов, М.С. Дудкин, В.Н. Корзун. – О.: Оптимум, 2000. – 517 с.
   Shchelkunov, L.F., Dudkin, M.S. and Korzun, V.N. (2000), *Pishcha i ekolohiia* [Food and Environment], Optimum, Odesa, Ukraine, 517 p.
6. Івашків Л.Я. Нові класи інгредієнтів продуктів харчування та їхні функціональні властивості / Л.Я. Івашків // Проблеми харчування. – 2010. – № 3-4. – С. 61-66.
   Ivashkiv, L.Ya. (2010), "New classes of food ingredients and their functional properties", *Problemy kharchuvannia*, no. 3-4, pp. 61-66.
7. Кантере В.М. Органолептический анализ пищевых продуктов: монография / В.М. Кантере. – М.: Издат. комплекс МГУПП, 2001. – 151 с.
   Kantere, V.M. (2001), *Organolepticheskiy analiz pishchevykh produktov* [The sensory analysis of food products], Izdat. kompleks MSGPP, Moscow, Russia, 151 p.
8. Lawless H.T. Sensory Evaluation of Food: Principles and Practices / H.T. Lawless, H. Heymann. – 2 nd ed. – New York: Springer, 2010.
   Lawless, H.T. and Heymann, H. (2010), *Sensory Evaluation of Food: Principles and Practices*, Springer, New York, USA.
9. Ореста К. Оцінювання задоволеності споживачів якістю продукції та вироблення способів її поліпшення / К. Ореста, О. Бойко, А. Гунькало // Вимірювальна техніка та метрологія. – 2011. – № 72. – С. 125-129.
   Oresta, K., Boyko, O. and Gunkalo, A. (2011), "Evaluation of customer satisfaction and product quality development of ways of its improve", *Vymiriuvalna tekhnika ta metrolohiia*, no. 72, pp. 125-129.
10. Якість продукції. Оцінювання якості. Терміни та визначення. ДСТУ 2925-94. – Чинний від 1996-01-01. – К.: Держстандарт України, 1995. – 27 с.
    State standart of Ukraine (1995), "Quality products. Evaluation of quality. Terms and definitions", DSTU 2925-94 from 1th December 1996, Derzhstandart Ukrainy, Kiev, Ukraine, 27 p.

11. Методичні рекомендації щодо забезпечення якості та безпеки товарів і послуг підприємств ресторанного господарства: Наказ Міністерства економіки України від 22 лип. 2008 р. № 295 [Електронний ресурс]. – Режим доступу: <http://www.me.gov.ua/control/uk/publish/article?art_id=119977&cat_id=38738>.
Ministry of Economics of Ukraine (2008), The Order "Guidelines for quality and safety of goods and services of restaurant facilities", no. 295, from June, 22, available at: www.me.gov.ua/control/uk/publish/article?art_id =119977&cat_id=38738.

Метою *нашого дослідження є визначення ймовірних ризиків нераціонального харчування населення та основні показники-характеристики, за якими доцільно оцінювати якість продукції у сфері ресторанного господарства; аналіз наявних методів оцінювання якості харчових продуктів і розробка авторського підходу до оцінювання якості продукції ресторанного господарства з урахуванням її корисного споживчого ефекту та органолептичних характеристик.*

Методика. *У роботі було застосовано розрахунковий, соціологічний та експертний методи для визначення основних нутрієнтів і їх значущості для різних груп і підгруп страв і напоїв з точки зору їх впливу на якість.*

Результати. *Нераціональне харчування може негативно вплинути на наш стан здоров'я і благополуччя та знизити здатність вести активний спосіб життя. У наш час є три типи дисбалансів у раціонах харчування населення України: кількісний; технологічний; соціокультурний. У короткостроковій перспективі нераціональне харчування може призводити до стресу, втоми, зниження нашої продуктивності в роботі, а з часом (у довгостроковій перспективі) може сприяти зростанню ризику розвитку деяких захворювань та виникненню інших проблем зі здоров'ям.*

Наукова новизна та практична значущість. *Методи, які застосовують у процесі дослідження якості харчових продуктів, залежно від їх функціонального призначення, слід поділити на такі групи: аналітичні – для визначення якості продукції та базових харчових інгредієнтів продукції; контролю якості продукції.*

Зроблено висновок, що визначаючи інтегральний показник якості продукції як ключовий індикатор конкурентоспроможності закладу ресторанного господарства, доцільно виокремлювати чотири групи показників: органолептичні; стабільності; забезпечення добробуту; харчової цінності.

Запропоновано авторський підхід до оцінювання якості продукції ресторанного господарства з урахуванням її корисного споживчого ефекту та органолептичних характеристик.

Доведено, що новий підхід сприятиме отриманню більш об'єктивних оцінок якості та дозволить порівнювати продукцію різних асортиментних груп і підгруп.

Напрями подальших досліджень. *Результати цього дослідження в подальшому можуть бути використані під час розробки абсолютно нових кулінарних виробів (з моделюванням їх якісних характеристик) і для розвитку наукових підходів щодо оцінювання конкурентоспроможності продукції ресторанного господарства.*

Ключові слова: *харчування, якість, ризик, страви, напої, метод оцінювання, нутрієнти, корисний ефект, харчова цінність, органолептичні характеристики.*

Цели *нашего исследования заключаются в следующем: определить возможные риски нерационального питания населения и основные показатели-характеристики, по которым целесообразно оценивать качество продукции в сфере ресторанного хозяйства; проанализировать имеющиеся методы оценки качества пищевых продуктов и разработать авторский подход к оценке качества продукции общественного питания с учетом ее полезного потребительского эффекта и органолептических характеристик.*

Методика. *В работе были использованы расчетный, социологический и экспертный методы для определения основных нутриентов и их значимости для разных групп и подгрупп блюд и напитков с точки зрения определения их влияния на качество.*

Результаты. *Нерациональное питание может негативно повлиять на наше повседневное здоровье и благополучие и снизить способность вести приятный и активный образ*

жизни. В наше время существуют три типа дисбалансов в рационах питания населения Украины: количественный; технологический; социокультурный. В краткосрочной перспективе нерациональное питание может приводить к стрессу, усталости, снижению нашей производительности в работе, а с течением времени (в долгосрочной перспективе) может способствовать росту риска развития некоторых заболеваний и возникновению других проблем со здоровьем.

Научная новизна и практическая значимость. *Методы, применяемые в процессе исследования качества пищевых продуктов, в зависимости от их функционального назначения, следует разделять на следующие группы: аналитические – для определения качества продукции и базовых пищевых ингредиентов продукции; контроля качества продукции.*

Сделан вывод, что определяя интегральный показатель качества продукции как ключевой индикатор конкурентоспособности заведения ресторанного хозяйства, целесообразно выделять четыре группы показателей: органолептические; стабильности; обеспечения благосостояния; пищевой ценности.

Предложен авторский подход к оценке качества продукции ресторанного хозяйства с учетом ее полезного потребительского эффекта и органолептических характеристик.

Доказано, что новый подход будет способствовать получению более объективных оценок качества и позволит сравнивать продукцию разных ассортиментных групп и подгрупп.

Направления дальнейших исследований. *Результаты этого исследования в дальнейшем могут быть использованы при разработке совершенно новых кулинарных изделий (с моделированием их качественных характеристик) и для развития научных подходов к оценке конкурентоспособности продукции ресторанного хозяйства.*

Ключевые слова: *питание, качество, риск, блюда, напитки, метод оценивания, нутриенты, полезный эффект, пищевая ценность, органолептические характеристики.*

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При современной специализации наук о природе невозможно одному ученому глубоко охватить знания во всех этих науках. Но отсюда, по-моему, никак не следует делать выводы, что каждый натуралист обязан отмежеваться от соседних областей знания… Я предпочитаю лучше заслужить упрёк в дилетантском отношении к соседним научным областям, чем вовсе от них отмежеваться, так как я в течение всей научной деятельности был глубоко убежден, что именно работа в промежуточных областях может обогатить нас наиболее плодотворными общими идеями

Н.К. Кольцов