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IMPLEMENTATION OF EUROPEAN EXPERIENCE IN TRAINING STUDENTS OF AGRICULTURAL SPECIALTIES IN THE CONTEXT OF STRENGTHENING NATIONAL FOOD SECURITY

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INTRODUCTION

In Ukraine, agriculture and the food industry are important branches of the national economy. Production and processing of livestock products and food products are of great importance for providing the population with high-quality and safe food, as well as for export to international markets. However, success in these industries depends significantly on the presence of highly qualified specialists who possess modern knowledge and skills in the context of strengthening national food security.

An important aspect in the professional training of food technologists is their contribution to the development of the national economy and ensuring the country's food security[1]. Ukraine has significant potential in the production of agricultural and food products, and technologists play an important role in its realization.

In accordance with the growing demands of consumers, as well as global standards of food quality and safety, specialists must be constantly ready to improve their knowledge and skills. Professional training should include not only the basic technical aspects of processing food products, but also ecological, security and social aspects, which are increasingly important in today's world[2].

In the modern conditions of the development of agriculture and food industry in Ukraine, the issue of professional training of technologists is of particular relevance. The quality and safety of food products consumed by the population, as well as the competitiveness of Ukrainian agricultural and food enterprises on the world market, depend on these specialists.

[1] Bolzan de Rezende L., Blackwell P., Denicol J., Guillaumon S. Main competencies to manage complex defence projects. Project Leadership and Society. 2021. 2. 100014 ISSN 2666-7215 https://doi.org/10.1016/j.plas.2021.100014.

[2] Batsurovska Ilona. Technological Model of Training of Masters in Electrical Engineering to Electrical Installation and Commissioning. Journal of Physics: Conference Series 1946. 2021. 012015. IOP Publishing ICon-MaSTEd. doi:10.1088/1742-6596/1946/1/012015

1. The current state of development of the professional training system for students of agricultural specialties in the context of strengthening national food security in EU countries

The modern world is on the threshold of deep transformations in the field of agro-industrial production and product processing, especially in the context of food security and food technology. These changes are taking place under the influence of global challenges, such as the growing need for food security, environmental sustainability, and the introduction of the latest scientific achievements and technologies. In this context, the countries of the European Union (EU) are faced with an important task: not only to support and develop their agrarian sectors, but also to ensure the high quality of professional training of technologists in these fields[3]. It is important to consider that the agricultural sector of the EU is going through a period of significant changes caused not only by domestic politics and economics, but also by global trends that require adaptation and an innovative approach in the educational process. Issues of environmental sustainability and sustainable practices in animal husbandry, which are becoming an important element of educational programs, are also extremely relevant[4]. Given the growing attention to issues of climate change, healthy nutrition and animal welfare, the European system of vocational education aims not only to teach skills and knowledge, but also to form a responsible attitude to work with living organisms and the environment [5]. This topic opens up a wide space for discussions and research, as it covers a wide range of aspects, from training methods and approaches to the development of highly qualified personnel who will be able to effectively respond to the challenges of the modern agro-industrial complex[6]. The system of professional training of specialists in ehe field of production food technologies is a key element of a stable and competitive agricultural and food industry of the countries of the European Union (EU).

[3] European Commission EU Competency Framework URL: https://ec.europa.eu/regional_policy/en/policy/how/improving-investment/competency/

[4] Idrees Hisham, Xu Jin, Haider S. A., Tehseen Sh. A systematic review of knowledge management and new product development projects: Trends, issues, and challenges. *Journal of Innovation & Knowledge.* 2021. № 8 (1003504). С. 1–10. DOI: http://doi.org/10.1016/j.jik.2023.100350.

[5] Landberg M., Partsch M. Perceptions on and attitudes towards lifelong learning in the educational system. Social Sciences Humanities Open. 2023. 8. 100534.

[6] Hevko I. V., Lutsyk I. B., Lutsyk I. I., Potapchuk O. I., Borysov V. V. Implementation of web resources using cloud technologies to demonstrate and organize students' research work. Journal of Physics : Conference Series. 2021. 1946 012019. P. 1–11. DOI: https://doi.org/10.1088/1742-6596/1946/1/012019.

Fig. 1. The structure of the development of the system of professional training of students of agricultural specialties in the context of strengthening national food security

Figure 1 shows the development scheme of the system of professional training of students of agricultural specialties in the context of strengthening national food security in the EU countries. Consumer demand for high-quality and safe products is growing, and this poses a challenge to EU countries to ensure the availability of highly qualified specialists who could

meet market requirements[7]. The creation of a scheme that reflects the state of development of the system of professional training of technologists in the field of production and processing of livestock products and food technologies in EU countries requires in-depth research and analysis of educational programs, regulatory requirements and industrial standards in different countries. of knowledge This scheme includes education stages, the impact of EU regulations, industrial partnerships, international mobility, innovation, socio-economic factors and market needs in this area. There are considered in more detail the current state of development of the system of professional training of technologists in the production and processing of livestock products and food technologies in EU countries.

The system of professional training of technologists in the field of production and processing of livestock products and food technologies in ***Austria*** is recognized as one of the highest qualities and most advanced in the European Union. The Austrian system of vocational education and training is an example of effective integration of educational programs, industrial partnerships and modern technologies. Austria uses a two-tier education system that includes general vocational training and higher vocational education. The first level of education includes technical schools and vocational schools, where students receive theoretical knowledge and practical skills in the field of food production and animal husbandry technologies. Industrial partnerships are an important part of the vocational training system in Austria. This means that school's partner with businesses to provide students with internships and work at real factories. It helps students gain hands-on experience and make industry contacts. The Austrian vocational training system meets EU standards, which allows graduates to integrate more easily in the European labour market. This is especially important in the food industry, where safety and quality requirements are very high. After completing basic professional training, specialists have the opportunity to receive additional education and improve their qualifications at the workplace. This allows for continuous development of personnel and adaptation to new technologies. Austria invests in modern equipment and technology for educational institutions to ensure that students have access to the latest developments and methods in the field of food technology[8]. In Austria, there are specialized training programs aimed at various aspects of production and processing of livestock products and food technology, such as organic production, food safety, technical engineering and many others.

[7] Kurepin V. Personnel Security as an Integral Part of Economic Security at Agricultural Enterprises. Modern Economics, 24, 2020) 94–99. DOI: https://doi.org/10.31521/modecon.V24(2020)-15.

[8] Hörmann, Corinna. (2023). The Journey of Digital Education in Austria – From Non-Existent to Mandatory in Five Years. 10.13140/RG.2.2.10740.73608.

The system of professional training of technologists in the production and processing of animal husbandry products and food technologies in the ***Czech Republic*** is an important component of the country's agrarian and food sector. The Czech Republic is known as one of the countries in the European Union where agriculture and the food industry are of great importance, and the education system in this field provides high quality education and training. In the Czech Republic, there are large universities and institutions of higher learning that offer bachelor's and master's programs in the field of production and processing technologies of animal husbandry and food technology. These programs provide students with in-depth knowledge and experience in areas such as biotechnology, food chemistry, meat and dairy industries, and more. In addition to universities, there are specialized higher education institutions in the Czech Republic that offer programs aimed at training specialists in the fields of specific products and processing, for example, meat, milk, bread, etc. The Czech Republic promotes cooperation with enterprises and farms so that students have the opportunity to gain practical experience and skills in real production conditions. The Czech Republic supports scientific research and innovation in the field of food technology, which helps prepare specialists for the use of modern technologies and trends in the field. Czech universities actively promote the international exchange of students and teachers, which facilitates the exchange of knowledge and experience with other countries. In the Czech Republic, there are professional unions and associations that contribute to the development and support of specialists in the field of animal husbandry and food technology.

The system of professional training of technologists in the production and processing of livestock products and food technologies in ***Denmark*** is known for its high quality, and this country is recognized as a world leader in the field of food industry and agriculture. There are a number of prestigious universities in Denmark that offer training programs in food technology and agricultural sciences. Educational institutions such as the University of Copenhagen and Aarhus University are engaged in research and teaching in the field of animal husbandry and food technology. Denmark is known for its emphasis on practical training. Many programs include mandatory internships and practical classes at well-known companies in the food industry. This helps students gain hands-on experience and build useful connections with industry professionals. Denmark is actively investing in research and innovation in the food industry. Universities collaborate with businesses to develop new products, technologies and approaches to food production and processing. Danish companies actively cooperate with universities and educational institutions, giving students the opportunity to practice and work on real projects. This cooperation helps students integrate

more easily in the labor market. Denmark supports internship and exchange programs for students and teachers, which facilitates the exchange of knowledge and experience between different countries and institutions. Denmark is actively developing a sustainable approach to food production and processing. Specialists in the field of technologies for the production and processing of livestock products develop and implement environmentally friendly methods and technologies[9].

The system of professional training of technologists in the production and processing of livestock products and food technologies in ***Estonia*** is an important element of the development of the agricultural and food industries of this country. Estonia has high standards of product quality and compliance with the highest food safety standards, so training specialists in this field is an extremely important task. Universities and higher education institutions in Estonia offer bachelor's, master's and doctoral programs in the field of production and processing of livestock products and food technology. These programs provide students with in-depth knowledge and hands-on experience in the food industry. Students get the opportunity to participate in practical classes and internships at enterprises specializing in the production and processing of livestock and food products. This helps students gain real-world experience and prepare for entering the labour market. Estonia is actively developing innovative technologies in the food industry. Universities and research institutes collaborate with businesses to develop new products and technologies, and this is reflected in curricula. Students in Estonia also have the opportunity to participate in international exchange programs and internships abroad. This helps to expand their global experience and knowledge. The government of Estonia provides financial support to students and helps to reduce the cost of education in higher education institutions. Universities and colleges partner with food businesses to ensure curriculum relevance and provide students with employment opportunities upon graduation.

The system of professional training of technologists in the production and processing of livestock products and food technologies in ***Germany*** is considered one of the most highly developed and effective in the world. Germany is famous for the high quality of its food products and the productivity of its agricultural sector, and this is achieved thanks to the great contribution of technologists. In Germany, there is a two-level system of training specialists in this field. The first level is vocational training or technical training provided in vocational schools. The second level is higher education in the field of food technology, which can be obtained from higher

[9] Hörmann, Corinna. (2023). The Journey of Digital Education in Austria – From Non-Existent to Mandatory in Five Years. 10.13140/RG.2.2.10740.73608.

education institutions, universities or technical colleges. Education in Germany in this field provides in-depth knowledge in both theoretical and practical aspects. Students spend a significant amount of time on internships and practical training in food enterprises, where they gain experience with raw materials, equipment and production technologies. The education system in Germany promotes the development of individual skills and interests of students. They can choose specializations and fields that most closely match their career plans. German universities and higher education institutions actively cooperate with food industry enterprises. This collaboration allows students to gain practical experience and has a directive influence on the content of the study program so that it meets the needs of the labor market. Germany is known for its active support of scientific research and innovation in the field of food technology. Specialists have access to modern laboratories and research centers. German universities also actively cooperate with universities and scientific institutions from other countries, which contributes to the exchange of knowledge and the internationalization of education[10].

The system of professional training of technologists in the production and processing of animal husbandry products and food technologies in ***Poland*** is important for the development of the agricultural sector and the food industry in the country. Poland is one of the largest agricultural countries in the European Union, and an effective system of training specialists is a key factor in ensuring high quality and competitiveness of products. Poland has several prestigious universities specializing in agricultural science and food technology. Universities offer bachelor's, master's and doctoral programs in these fields. Training programs are updated and improved to meet modern standards and market needs[11]. They include theoretical training and practical work, where students can acquire skills in the production and processing of livestock products. Many universities and technical colleges in Poland have modern infrastructure and equipment necessary for conducting research and practical training in the field of production and processing of livestock products. Students are given

[10] Rieckmann, Marco & Singer-Brodowski, Mandy. (2024). Education for Sustainable Development in Germany. World Review: Environmental and Sustainability Education in the Context of the Sustainable Development Goals (pp. 125–142) Chapter: 8Publisher: Taylor & Francis Group. 10.1201/9781003145202-11.

[11] Kapranov, Yan & Semenog, Olena. (2024). PRINCIPLES OF DIGITALIZATION IN PHILOLOGICAL EDUCATION AT HIGHER EDUCATION INSTITUTIONS IN POLAND AND UKRAINE. Philology and philological education in the digital transformation era: European dimensions, national context, intercultural communication (pp. 33–90) Publisher: Riga, Latvia : "Baltija Publishing" 10.30525/978-9934-26-456-6-3.

the opportunity to do internships at enterprises and productions in the field of animal husbandry and food technology, which helps them gain practical experience and see how production works in real conditions. Poland actively cooperates with other countries in the field of education and research. This allows students to gain international experience and deepen their knowledge. Universities and colleges collaborate with businesses and entrepreneurs in the fields of animal husbandry and food technology, which promotes the exchange of knowledge and innovation and helps students find jobs after completing their studies.

The system of professional training of technologists in the production and processing of animal husbandry products and food technologies in ***Romania*** is of great importance for the development of the agricultural and food sector of this country. Romania, as one of the members of the European Union, sets itself the task of meeting EU standards and requirements regarding product quality and food safety. In Romania, there are educational institutions that specialize in the training of specialists in the production and processing of livestock products and food technologies. Institutions of higher education, such as universities and institutes, offer bachelor's, master's, and doctoral programs in this field. An important aspect of the professional training system in Romania is the presence of specialized faculties and departments dedicated to animal husbandry and food technology. These educational institutions cooperate with enterprises and research institutions, which allows students to gain practical experience. Students in Romania have the opportunity to undergo internships and practical training at enterprises and factories, which helps them gain real experience in the industry. Romania actively cooperates with other EU countries and international organizations in the field of education and research. This promotes the exchange of knowledge and experience and allows students and teachers to gain new ideas and perspectives. In Romania, support is provided for research and innovation in the field of production and processing of livestock products and food technology. This contributes to the development of new technologies and production methods. Climate change, sustainable development and growing attention to environmental issues present new challenges to specialists in the field of animal husbandry and food technology. The Romanian system of professional training focuses on these issues and prepares specialists to solve them[12].

Slovakia, as a member of the European Union, is improving and adapting its system of professional training of technologists in the production and processing of animal husbandry products and food technologies in order to

[12] Hörmann, Corinna. (2023). The Journey of Digital Education in Austria – From Non-Existent to Mandatory in Five Years. 10.13140/RG.2.2.10740.73608.

meet the modern requirements of the industry. Slovakia has a number of universities and higher education institutions that offer training programs in the production and processing of livestock products and food technology. For example, the Slovak Technical University in Bratislava, the University of Konstantin Fil or the Technical University of Košice offer relevant programs. Training programs are constantly updated and improved to take into account modern technologies and industry requirements. This includes learning about innovative food production and processing methods, quality and safety standards, and sustainable practices. Students get the opportunity to gain practical experience during internships at enterprises and productions in the field of animal husbandry and food technology. It helps them to apply the acquired knowledge in practice and develop the necessary skills. Slovakia actively promotes the international exchange of students and teachers, which helps to attract foreign experience and expand the horizons of learning. The government and educational institutions in Slovakia are improving education quality assurance systems, including assessment of learning outcomes and improvement of curricula. Students have the opportunity to receive financial support in the form of scholarships or other programs to ensure access to higher education in the field of production and processing of livestock products and food technology.

The system of professional training of technologists in the production and processing of animal husbandry products and food technologies in ***Slovenia*** is an important factor in the development of the agricultural and food industries of the country. Slovenia, as a member of the European Union, adheres to high standards of product safety, quality and sustainable development in these industries. Slovenia has a developed system of higher education in the field of animal husbandry and food technology. Higher education institutions such as the University of Ljubljana and the University of Maribor offer bachelor's, master's and doctoral programs in these specialties. In the professional training system, great emphasis is placed on the practical training of students. This can include internships in agricultural enterprises, food companies and laboratories. Universities and higher education institutions in Slovenia actively cooperate with enterprises and organizations of the industry. This contributes to the adaptation of educational programs to the needs of the labor market and ensures a high level of compliance of graduates with the requirements of the industry. In Slovenia, support is provided for research projects and innovations in the field of animal husbandry and food technology. This helps to stimulate the development of new technologies and approaches in the production and processing of products. Slovenia actively cooperates with other EU countries and international organizations in the field of higher education and science. This cooperation facilitates the exchange of knowledge and experience and

helps ensure an international quality standard in the field of animal husbandry and food technology[13].

The system of professional training of technologists in the production and processing of animal husbandry products and food technologies in ***Hungary*** is an important component of the development of the agricultural and food sector of this country. Hungary is known for its rich cultural heritage and traditions in the field of gastronomy, and this requires the presence of qualified professionals who can ensure the quality and safety of products. Hungary has a rich selection of universities and institutions of higher learning that offer programs in livestock production and processing and food technology. The most famous among them are the Budapest Technical University and the University of Agriculture. Study programs in Hungary usually focus on the technical aspects of production and processing of livestock products and food technology. Students study modern methods and technologies, as well as gain practical experience at enterprises. An important element of education is the opportunity for students to carry out internships and practice on agricultural farms, food enterprises and laboratories. This helps students gain practical experience and enrich their knowledge. Hungarian universities are actively engaged in research work in the field of food technology, which contributes to the development of innovative methods and technologies in agriculture and the food industry. Hungary is noted for active cooperation between universities and enterprises in the agricultural and food sector. This cooperation promotes the exchange of knowledge and technologies and ensures the relevance of educational programs to the real needs of the labor market. Hungary, like many other EU countries, is actively working to ensure the sustainable development of the industry and the introduction of environmentally friendly technologies in the production and processing of products.

Thus, the main directions of development of the system of professional training of specialists in the field of production and processing of animal husbandry products and food technologies in the EU countries include certain aspects [14], which will be presented in Table 1.

[13] Krišto, Ana & Rajić, Višnja. (2024). Comparison of Compulsory Education of the Republic of Croatia and the Republic of Slovenia. International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE). 12. 157-168. 10.23947/2334-8496-2024-12-1-157-168.

[14] Council of Europe Reference Framework of Competences for Democratic Culture URL: https://www.coe.int/en/web/campaign-free-to-speak-safe-to-learn/reference-framework-of-competences-for-democratic-culture

Table 1

The main directions of the professional training system for students of agricultural specialties in the context of strengthening national food security in EU countries

№	Directions of development	Characteristics
1	*Relevance of training programs*	EU countries are constantly updating curricula and courses to meet the modern technological and production requirements of the industry. Animal husbandry and food technology professionals must be able to learn new methods and innovations.
2	*Ensuring the quality of education*	An important element is the provision of high-quality education and training. In this context, it is important to take into account the needs of students and the labour market, cooperate with enterprises and ensure access to modern equipment and technologies.
3	*International exchange and cooperation*	EU countries promote the international exchange of students and teachers, which promotes the exchange of knowledge and experience. It is also important to cooperate with international organizations and institutions to ensure global competitiveness.
4	*Development of entrepreneurial skills*	In today's world, professionals must have entrepreneurial skills because they can become entrepreneurs or develop new products and technologies. EU countries provide support for the development of these skills.
5	*Cooperation with the private sector*	Cooperation with enterprises and industry associations helps to ensure practical training of students and compliance of educational programs with market needs.
6	*Use of modern technologies in the educational process*	EU countries are actively implementing innovative technologies in the educational process, including virtual reality, artificial intelligence and other modern tools. It helps students acquire practical skills and better understand complex processes in the production and processing of livestock products and food technology.
7	*Internship programs and practical trainings*	EU countries provide opportunities for students to gain practical experience at enterprises and productions in the field of animal husbandry and food technology during their studies. This contributes to the enrichment of their professional experience and helps them prepare for entering the labor market.

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8	*Cooperation with other sectors of the economy*	The field of animal husbandry and food technology is closely related to other sectors of the economy, such as logistics, marketing, engineering and others. Therefore, cooperation with these sectors is an important aspect of the development of the professional training system for specialists in this field.
9	*Adaptation to climate change and sustainable development*	In light of climate change and growing attention to sustainable development, the system of professional training of specialists in the EU countries also focuses on ecological and sustainable production and processing of animal husbandry and food technologies.

All these directions contribute to the improvement of the system of professional training of specialists in the field of production and processing of livestock products and food technologies in EU countries and allow them to maintain their place in the global food market[15]. The modern education system becomes responsible for training specialists who can solve challenges and tasks related to the sustainability and safety of products, innovation and sustainable development of the agricultural sector and the food industry in the European Union.

In general, the system of professional training of specialists in the field of production and processing of livestock products and food technologies in EU countries is constantly developing and improving in order to meet the requirements of the modern market and ensure sustainable development of the industry. Cooperation between universities, businesses and government bodies plays a key role in this process and helps to ensure the highest quality of education and training of qualified professionals.

Therefore, the system of professional training of technologists in the production and processing of livestock products and food technologies in EU countries plays a critical role in ensuring high quality and competitiveness of the food industry in the region. Nowadays, when the global market for food and food products is becoming more complex and demanding, the education and training system must constantly adapt to changes, introduce new technologies and teaching methods, and collaborate with students, businesses and industry organizations.

[15] Gayoso Martínez V., Hernández Encinas L., Martín Vaquero J., Queiruga Dios A., Pueyo Candil J. A New Approach for Obtaining Bachelor's Degree by Technology Professionals. Procedia – Social and Behavioral Sciences. 2020. 116. P. 831–835 ISSN 1877-0428 https://doi.org/10.1016/j.sbspro.2014.01.306.

2. Implementation of the European experience of training students of agricultural specialties in the context of strengthening national food security

One of the main features of the professional training of technologists in Ukraine is the presence of specialized higher educational institutions that offer programs in accounting and auditing in the food industry, food production technologies, meat processing, milk processing, poultry farming, food technology, biotechnology and other specialties. related to the production and processing of livestock products and food technologies[16].

The second important feature is the availability of current programs and training methods that take into account modern requirements and standards of production and processing of livestock products and food technologies[17]. Specialists should have knowledge in the fields of food safety and quality, production organization, use of modern technologies and innovative developments[18].

The third feature is the practical orientation of education. Technologists should have the opportunity to acquire practical skills at modern productions and enterprises of the food industry[19]. For this, it is important to ensure practical training of students on the basis of enterprises, as well as to conduct master classes and trainings with industry specialists[20].

[16] Batsurovska I.V., Dotsenko N.A., Soloviev V.N., Gorbenko O.A., Litvinova O.P., Kim N.I., Haleeva A.P. Technology of application of 3D models of electrical engineering in the performing laboratory work. CEUR Workshop Proceedings. CTE 2021: 9th Workshop on Cloud Technologies in Education. December 17, 2021, Kryvyi Rih, Ukraine. 2021. P. 323–335 https://dspace.mnau.edu.ua/jspui/handle/123456789/12526

[17] Blau I., Shamir-Inbal T., Avdiel O. How does the pedagogical design of a technology-enhanced collaborative academic course promote digital literacies, self-regulation, and perceived learning of students? The Internet and Higher Education. 2020. 45. doi:10.1016/j.iheduc.2019.100722

[18] Dotsenko N. The technology of application online learning platforms in electrical engineering education. 2022 IEEE 4th International Conference on Modern Electrical and Energy System (MEES). 2022. P. 1–5.

[19] Dotsenko N.A., Gorbenko, O.A., Haleeva, A.P. Technology of creating educational content for open digital resources in general technical disciplines. Journal of Physics: Conference Series, 2023. Volume 2611, XV International Conference on Mathematics, Science and Technology Education (ICon-MaSTEd 2023) 16/05/2023–19/05/2023 Kryvyi Rih, Ukraine 2611(1), 012019. https://dspace.mnau.edu.ua/jspui/handle/123456789/15804

[20] Bondarenko S., Verbivska L., Dobrianska N., Iefimova G., Pavlova V., Mamrotska O. Management of Enterprise Innovation Costs to Ensure Economic Security. International Journal of Recent Technology and Engineering (IJRTE). 2019. 8(3). 5609-5613.

The fourth feature is active interaction with enterprises and organizations of the industry. This allows students to gain practical experience and know the needs of the labour market, and also contributes to the implementation of innovative solutions in production[21].

Disadvantages of professional training of technologists in Ukraine are the lack of a sufficient number of modern equipment and laboratories for practical training, as well as instability in the financing of educational institutions.

In conclusion, the professional training of agricultural specialists in the context of food security in Ukraine has its own characteristics, but at the same time it is very important for the development of the country's agriculture and food industry. These specialists play a key role in ensuring the quality and safety of food products and contribute to increasing the competitiveness of Ukrainian enterprises on the international market. To achieve success in this field, it is necessary to constantly improve educational programs, maintain contact with industrial enterprises, and promote research and innovation activities.

One of the promising trends in the training of technologists is the introduction of digital technologies and the Internet of Things in the field of production and processing of livestock products and food technologies[22]. This will allow students to gain practical experience in working with modern equipment and production management systems that meet modern requirements and trends[23].

In addition, it is important to support the internationalization of professional training, to promote the exchange of experience and knowledge with other countries, as well as to attract foreign experts to teach relevant subjects and conduct master classes[24]. In general, the professional training of technologists in the production and processing of livestock products and food technologies is an important element of the development of agriculture and the food industry in Ukraine. Taking into account modern requirements

[21] Borysov V., Borysova S., Prodan I., Borisov G. Graphic Designing as a Source of Student Earnings: A Workspace of Aesthetics Arts. International Journal of Computer Science and Network Security. 2022. № 22 (1). С. 650–658. DOI: https://doi.org/10.22937/IJCSNS.2022.22.1.85.

[22] Grosemans I., De Cuyper N. Career competencies in the transition from higher education to the labor market: Examining developmental trajectories. Journal of Vocational Behavior. 2021. 128. 103602, ISSN 0001-8791

[23] Grosemans I., Coertjens L., Kyndt E. Exploring learning and fit in the transition from higher education to the labour market: A systematic review. Educational Research Review. 2017. 21. P. 67–84

[24] Clinton J. M., Hattie J. Cognitive complexity of evaluator competencies. Evaluation and Program Planning. 2021. 102006 ISSN 0149-7189 https://doi.org/ 10.1016/j.evalprogplan.2021.102006.

and trends, as well as involving the latest technologies and practices, these specialists have every chance to become competitive on the international market and ensure the quality and safety of food products for the Ukrainian population.

An additional important component of the professional training of technologists in the field of production and processing of livestock products and food technologies is the development of research and scientific and technical activities. High quality scientific research and innovative development can significantly improve production efficiency, reduce costs and improve product quality[25].

For this, it is important to promote active cooperation between higher education institutions, scientific and research institutes, as well as enterprises of the industry. Involvement of students in research activities and publication of their results can contribute to the formation of new ideas and technologies in the field of production and processing of livestock products and food technologies. Another important aspect is the study and implementation of modern environmental standards and practices in the field of production and processing of livestock products and food technologies. Preservation of natural resources and compliance with environmental standards are becoming increasingly important tasks for modern enterprises. Equally important is the preparation of specialists for the challenges and changes brought about by globalization and international cooperation. Specialists must be ready to compete in the global market, as well as to adapt to different standards and requirements of different countries[26].

Thus, the professional training of technologists in the production and processing of animal husbandry products and food technologies in Ukraine requires a comprehensive approach and taking into account modern trends in the industry. Ensuring the quality and safety of food products, the development of innovative technologies and research activities, as well as readiness for international cooperation are the main tasks in this area.

Another important aspect of the professional training of technologists in Ukraine is a balanced approach to the theoretical and practical components of training. Students should receive high-quality theoretical training, but also

[25] Galke, L., Vagliano, I., Franke, B., Zielke, T., Hoff-mann, M., and Scherp, ALifelong learning on evolving graphs under the con-straints of imbalanced classes and new classes. Neural networks: the official journal of the International Neural Network Society. 2023. 164. P. 156–176.

[26] Rajkhowa P., Kubik Z. Revisiting the relationship between farm mechanization and labour requirement in India. Ind. Econ. Rev. 2021. 56. P. 487–513. 10.1007/s41775-021-00120-x

have the opportunity to practically apply their knowledge in real productions and enterprises[27].

In addition, it is important to improve the system of internships and internships of students at enterprises of the industry. This will help them gain valuable work experience, learn modern technologies and production processes, and see how theoretical knowledge is applied in practice. It is also important to consider current trends in consumer demand for food products. Technologists must be ready to develop new products and technologies that meet modern tastes and consumer demands, as well as take into account effective trends in the food industry, such as organic production, vegetarian and gluten-free products.

In general, the professional training of technologists in the production and processing of livestock products and food technologies in Ukraine is a complex and multifaceted process that requires a combination of theoretical knowledge and practical skills, as well as taking into account modern trends and market requirements. These specialists play a key role in ensuring the quality and safety of food products, and their knowledge and skills are of great importance for the development of the industry in Ukraine.

The scheme of professional training of technologists in the production and processing of animal husbandry products and food technologies in Ukraine can be as follows:

1. Higher education

• Bachelor's degree: students choose a specialty related to the production and processing of livestock products and food technology.

• Master's degree: after receiving a bachelor's degree, students can continue their studies at a master's degree in specialized programs that delve deeper into the technology and management of food production.

2. Educational programs

• Higher education institutions offer specialized programs in the production and processing of livestock products and food technologies, where students study theoretical aspects and carry out practical training.

• The programs include such subjects as chemistry, biology, physics, microbiology, food technology, livestock processing technology, production organization, food safety, marketing, and others.

3. Practice and internship

• Students have the opportunity to do internships and internships at enterprises, where they get practical experience with the production and processing of food products.

[27] Mark R. Limon, John Paul C. Vallente, Consuelo T. Chua, Abigail S. Rustia. Situating curriculum in context: Using Glatthorn's Standards-Based Curriculum Development Model to contextualize food safety learning competencies. Food Control. 2021. 132. 108538 ISSN 0956-7135 https://doi.org/10.1016/j.foodcont.2021.108538.

• This practice may include work in laboratories, farms, food processing plants and other industries.

4. Thesis

• During graduation, students conduct research and write a thesis on a relevant topic in their chosen field.

• After successful completion of the program and defence of the thesis, students receive higher education and become specialists in the field of production and processing of livestock products and food technologies.

5. Postgraduate training:

• Some professionals may continue their studies in postgraduate courses or obtain additional certificates and qualifications in specialized areas to keep their knowledge up to date.

Training of specialists in the production of livestock products and food technologies in Ukraine contains several key elements:

• *Stages of the educational path* – steps, each of which represents a separate stage of the educational process, for example, primary education, advanced training and specialized courses.

• *Basic skills*: highlights the basic skills acquired during training. These skills can be represented by symbols or short textual descriptions, focusing on competencies critical to success in animal husbandry and food technology.

• *Career options*: possible career paths after graduation are depicted, perhaps with icons or short texts, illustrating different roles or sectors where specialists can apply their skills, such as agricultural management, food processing or control quality.

Professional training of technologists in the production and processing of livestock products and food technologies in Ukraine is an important component of the development of the national economy and ensuring the country's food security. In this field, educational institutions in Ukraine offer a variety of programs and educational opportunities for students who wish to receive high-quality education and training. The main features of the training of specialists include the choice of a specialized specialty, the study of theoretical and practical aspects of food technology, practice at modern enterprises, the preparation of diploma theses and the possibility of postgraduate training.

Each higher education institution has its own characteristics and specializations that allow students to choose a program that best suits their interests and goals. An important part of training is practical experience and the possibility of internship at enterprises, which contributes to the study of modern technologies and production processes. In general, the professional training of technologists in the production and processing of livestock products and food technologies is important for the development

of the agro-industrial complex of Ukraine and the provision of high-quality and safe food products for consumers of national and international markets.

CONCLUSIONS

The system of professional training of technologists in the EU countries actively takes into account modern challenges and trends affecting the industry. One such important aspect is climate change preparedness and sustainable development. Consumers and legislators are increasingly demanding environmental sustainability and responsibility in food production. Therefore, training programs include environmental aspects, technologies for reducing the impact on the environment, and sustainable production methods. It should also be noted that cooperation with international partners is an important part of the professional training system in the EU. The exchange of students and teachers with other countries helps to enrich the experience and bring variety to the educational process. In addition, it promotes the dissemination of best practices and innovations in the field of food technology.

The system of professional training of agricultural specialists in EU countries provides a high level of training that meets modern requirements and industry standards. This system helps ensure food quality and safety, promotes innovation and sustainable development, and plays a key role in supporting the EU's economic growth and competitiveness on the global market. However, it is important to continue to develop and improve this system, taking into account the changing requirements and challenges, to ensure its viability and success in the future.

On the basis of high level of training of specialists who receive education in Ukrainian higher educational institutions, Ukraine has the opportunity to compete on the international market of food products and to effectively implement modern production and processing technologies. Also, this training contributes to maintaining the quality and safety of food products, which are important aspects for meeting the needs of consumers and complying with the requirements of international standards.

Ukrainian students of agricultural specialties also have the opportunity to participate in scientific research and innovative projects, which contributes to the development of modern technologies and innovative solutions in the food industry. Therefore, professional training of students of agricultural specialties in Ukraine is an important component of the country's economic and scientific development, which contributes to maintaining food security and high quality of food products.

SUMMARY

There are outlined the current state of development of the professional training system for students of agricultural specialties in the context of strengthening national food security in EU countries. Key directions for the development of the system of the professional training system for students of agricultural specialties in the context of strengthening national food security in EU countries include updating educational programs, emphasizing practical training, promoting international exchange and cooperation, and strengthening ties with the private sector. Such approaches help graduates become qualified and adapted to the requirements of the modern labor market. Thanks to these measures, EU countries can continue to be leaders in the production and processing of livestock products and food technology, providing consumers with high-quality and safe products, as well as contributing to the sustainable development of the industry. It is important to maintain this system, to constantly improve it and meet the challenges of today, in order to ensure the future success of the European food and livestock industries. Also, it is investigated the implementation of the European experience of training students of agricultural specialties in the context of strengthening national food security. It is important to emphasize that the modern food market is dynamic and requires constant improvement of technologies and production processes. Therefore, the training of specialists in the field of production and processing of livestock products and food technologies should be relevant and meet modern requirements.

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