МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ТАВРІЙСЬКИЙ ДЕРЖАВНИЙ АГРОТЕХНОЛОГІЧНИЙ УНІВЕРСИТЕТ
ІМЕНІ ДМИТРА МОТОРНОГО
РАДА МОЛОДИХ УЧЕНИХ ТА ЗДОБУВАЧІВ ВИЩОЇ ОСВІТИ

МАТЕРІАЛИ
ІХ ВСЕУКРАЇНСЬКОЇ НАУКОВО-ТЕХНІЧНОЇ КОНФЕРЕНЦІЇ МАГІСТРАНТІВ І СТУДЕНТІВ ЗА ПІДСУМКАМИ НАУКОВИХ ДОСЛІДЖЕНЬ 2021 РОКУ

КАФЕДРА «ІНОЗЕМНІ МОВИ»

Мелітополь 2021

IX Всеукраїнська науково-технічна конференція магістрантів і студентів ТДАТУ. Кафедра «Іноземні мови»: матеріали IX Всеукр. наук.-техн. конф., 10-25 листопада 2021 р. Мелітополь: ТДАТУ, 2021. 130 с.

У збірнику представлено виклад тез доповідей і повідомлень поданих на
IX Всеукраїнську науково-технічну конференцію магістрантів і студентів Таврійського державного агротехнологічного університету імені Дмитра Моторного.

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ЗМІСТ

COMPUTER SCIENCES AND TECHNOLOGIES

ISSUES AND TRENDS IN MODERN ECONOMY

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SOCIÉTÉ. ÉCONOMIE. TECHNOLOGIES ET INNOVATIONS

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COMPUTER SCIENCES AND TECHNOLOGIES

STATE OF DESIGN DEVELOPMENT IN UKRAINE

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Over the last 12 years, Ukrainian design has been developing rapidly. Since 2009, Ukrainian designers have annually received the prestigious Red Dot Design Award. The positive dynamics of economic development, which has been observed in recent years, also stimulates business demand for professional design services. In the largest cities, sustainable design communities are being formed, specialized events are taking place, and niche publications are being launched.

In 2017, the PPV Knowledge Networks economic development agency commissioned by the European Bank for Reconstruction and Development conducted a study of the subject design market in Ukraine. The authors of the study interviewed representatives of small and medium-sized businesses in the relevant segment: design agencies, independent designers, and manufacturing companies in various fields. The survey involved 60 design agencies and independent designers and 56 manufacturing companies and brands from different fields and regions of Ukraine.

The study confirms the growth and development of the market of subject design in Ukraine but reveals the problems that arise under these conditions.

In Ukraine, design is still underestimated as a factor that can bring an added value to tangible and intangible products, due to the lack of a methodology for objective assessment of its quality.

There is also a problem of lack of relevant and complete information about the Ukrainian design market, its main and potential contributions to other sectors of the economy.

The UK Design Council singles out the term "design economics" which is a value generated using design in various industries. This term includes the work of designers in the actual design industries (e.g, graphic design), representatives of other professions in the design industry (e.g. managers) and designers in other areas of the economy (e.g, engineering).

To get a holistic picture of the development trends of the design market in Ukraine, the study covered different categories of respondents in the questionnaire, focus groups and in-depth individual interviews. We studied market participants through the prism of the work of designers, managers and founders of design agencies and other companies that include design development in their services / products. It is also important that the respondents have different experience in design and work in different regions of Ukraine. This allows us to consider the specific needs and problems of a wide range of market participants.

Observation:

– each private entrepreneur has two designers who operate without registration;

– freelancers work steadily in the market and are reluctant to work for the company;

– private entrepreneurship is the most common and profitable form of employment for both founders of design companies and their employees.

Perspectives:

– stimulating market participants to unite in other organizational and legal forms of doing business (limited liability companies (LLC) and private entrepreneurship (PE));

– strengthening the growth and financial stability of the design sector at the national level;

– facilitating the organization of cooperation with foreign customers, partners, providing better legal protection at the international level.

Conceptual projects and products are economically unprofitable, they are implemented mainly by design agencies as an additional area to enhance their prestige and participate in competitions.

The results of the study indicate the extensive nature of the growth of the design market in Ukraine, which is primarily provided by the growth of quantitative rather than qualitative indicators.

Given that design is a relatively young sector of the domestic economy and demand for it is just forming, such a situation is expected.

If the trend continues in the long run (5 years or more) and the market does not refocus on the intensive growth (due to competencies, technologies, high value-added products), the Ukrainian design sector risks becoming a center for low-cost standardized services with low competitiveness.

Observation:

–45% of designers have their business grown significantly over the past 3 years, only 7% of businesses have declined;

–chaotic development of design businesses, lack of developed strategies and business models;

–lack of economic information about design at the macro level;

–limited growth opportunities due to lack of access to prototyping;

–the audience of customers (business owners) of design is gradually getting younger and better understands the value of design services;

–low, compared to foreign, domestic effective demand for a design product;

–customers do not understand the differentiation of design prices.

Perspectives:

–formation of a conscious demand for design: "education" by designers of the customer's understanding of the value and importance of a design product through interaction at all stages of its creation, rather than presenting ready-made decisions that he will make or reject.

Key problems of designers in the market:

– misunderstanding of business processes.

– limited access to material and technical base.

– access to knowledge about export opportunities.

– legal and financial aspects of interaction with foreign partners and clients.

A key issue for designers is the ineffectiveness of their copyright protection mechanisms and distrust of manufacturers regarding integrity of the calculation of royalties.

Observation:

–the predominance of verbal agreements between designers and manufacturers, rather than concluding contracts;

–designers do not use copy protection mechanisms by manufacturers of ideas and prototypes;

–a large share of production and sales are in the shadows, because of which designers cannot get fair amounts of royalties;

–conflicts in the distribution of rights to the created product, including when applying for competitions and exhibitions.

Perspectives:

–development of consulting support for designers concerning standardization of relations with manufacturers through the conclusion of contracts: separate contracts both at the stage of creation of prototypes, and at the stage of start in production;

–organizations and associations of manufacturers, such as the Ukrainian Furniture Manufacturers Association, can develop and implement a system to guarantee the integrity of the calculation of the piano by its members with appropriate mechanisms of arbitration and reputational influence.

Also, it is worth noting the difference between the standards of international and Ukrainian certification for product design products.

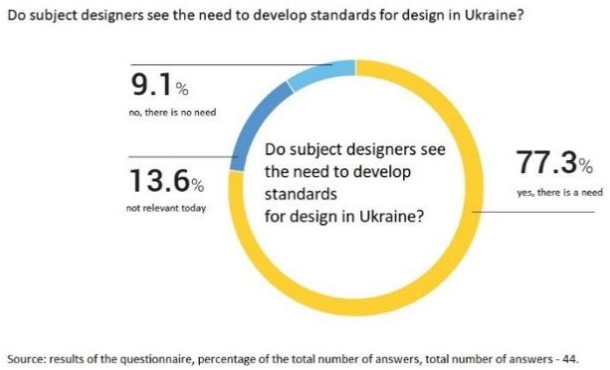
Observation:

–limited opportunities to work with foreign clients due to ignorance of standards in other countries and a long and expensive certification procedure in accordance with their legislation;

–subject designers underestimate the resources needed to certify products when trying to bring them to market in other countries.

–Perspectives:

–introduction of support by domestic organizations exports, for example, the Export Promotion Office, consultations for subject designers on standardization and certification of products for sale in foreign markets.



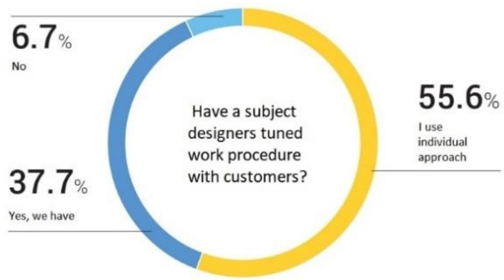


Figure 1 – Research diagrams

The study showed that design (including graphics) is actively developing, creating jobs and generating a tax revenue. We also found that subject design is in its infancy and suffers from a lack of market-based tools and a low level of customer education, the active development of non-formal education and the lack of whole classes of ecosystem participants. Taken together, these factors indicate, on the one hand, the active development of markets and, on the other hand, the existence of several market failures: when the free market is unable to solve the problem and when intervention at the state level can help.

Ukraine is actively forming a design ecosystem, mainly represented by private companies and public initiatives. State intervention should be positive for the development of this ecosystem – to involve existing participants as contractors, partners and experts (finance projects, involve contractors and experts), as opposed to creating parallel mechanisms and structures or undermining business models of private players through free services.

In conclusion, it should be emphasized that design is an important tool for many horizontal strategies: innovation, SME development, spatial development, education, regional development and more. At the same time, design is one of the 12 creative industries in Ukraine and needs an industrial (vertical) policy for development as an industry and a sphere. The existence of other thematic and sectoral policies, policy instruments and institutions (policy coordination) needs to be taken into account. Otherwise, you conflicts (wars for subordination, control and resources) can be created and functions can be duplicated.

Given the potential of the industry and the growth of design as an industry, at the institutional level it would be worthwhile to create the State Agency for Design Development (DARD) – a small government agency whose activities should be aimed at addressing key and significant issues hindering the development of the design industry in Ukraine, in interaction with market participants and ecosystems.

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ARE ALTERNATIVE ENERGY SOURCES REALLY EFFECTIVE?

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Energy exists and has not stopped its development for a long period of time. People have been looking for energy sources for their own purposes for a long time. The first sources of energy were, of course, thermal power plants [1]. People have been controlling fire for a very long time and using it for their needs. Thermal power plants were very inefficient and produced little energy, while consuming a lot of resources. Low efficiency occurs due to the large losses that take place at each of the stages.

The principle of operation of thermal power plants has a simple mechanism. At the initial stage, a certain type of fuel burns in the boiler and generates a large amount of heat. The heat energy increases the water's temperature to the boiling point. The water boils and the resulting steam drives a turbine with blades. In turn, the turbine is mechanically connected to an electric generator and generates electricity by its rotation [1].

This principle of operation is quite universal and is used in some other traditional power plants. These include nuclear and geothermal power plants.

One of the disadvantages of thermal and similar power plants can be attributed to the exhaustion of fuel for the combustion process [2].

If, for example, for nuclear power plants, uranium reserves are predicted to last for more than 1000 years, then for thermal power plants, the volume of coal and gas reserves is less. Such resources are restored for a very long time and are considered non-renewable.

If we talk about regenerative fuel stations, then hydroelectric power plants can be cited from the traditional ones. Their design also has a turbine connected to a generator. It is only activated under water pressure on dams of reservoirs. In such power plants, electricity can be produced for a very long time, since resources will not be exhausted.

For today, alternative energy sources are actively developing. These include wind and solar power plants. Their advantage is that they do not need any fuel. And since there is no combustion process in them, they do not produce any emissions [3], unlike, for example, thermal power plants.

In the world today, there is an increasing tendency to build alternative energy sources, such as solar or wind to replace traditional ones. The leaders in this regard are the countries of Europe. Every year the percentage of energy produced by alternative energy sources is getting higher [4].

One of the main reasons for the growing trend for such power plants is their environmental friendliness, since they do not emit anything into the atmosphere. However, it should be borne in mind that the blades of most wind farms are made from materials that are very difficult to dispose of. And therefore, for the most part, the blades that have spent their life are simply stored.

For comparison, nuclear power plants also do not emit harmful emissions during operation. Although they have a similar problem with the disposal of spent uranium rods. Wind and solar power plants also have a problem with limited efficiency. Because of it, in order to get enough energy, you need to occupy a large area with such installations. While nuclear power plants can produce the largest amount of energy of all possible power plants. Thus, it will not be necessary to occupy such a large area to generate a similar amount of electricity.

And perhaps the most significant drawback of alternative energy sources is their uneconomical nature. This is due to the fact that the installations themselves and power plants in general have a high cost relative to how much energy they produce [2]. In other words, the electricity received from such sources turns out to be very expensive. The situation could be corrected by a significant reduction in the cost of production of installations, which is quite problematic. Another way out was a multiple increase in the energy produced, which even with high efficiency will not be achieved, since wind or solar energy itself is small.

In contrast, we can give an example of nuclear power plants as the most economical [2]. The cost of construction and subsequent purchase of uranium rods is commensurate with alternative sources. However, the power generated is an order of magnitude higher. This means that the cost of energy at such a power plant can be several times cheaper.

One of the reasons for the smooth displacement of nuclear power plants in Europe is a concern for safety. But progress does not stand still and now the level of security at such stations is much higher than it was before. The risk of various kinds of accidents is almost zero.

As a conclusion, we can say that nuclear power plants have a great potential. Perhaps it is necessary to develop this industry, and not to displace it, today, with less efficient wind and solar energy.

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MODERN EQUIPMENT FOR CONSTRUCTION OF AIRLINES

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Power line – is a one of the components of the electrical network, a system of power equipment designed to transmit electricity by electric current. Also, an electric line as part of such a system that extends beyond the substation power plant. Overhead transmission line (OHL) - a device designed for transmission of electricity distribution through wires, located in the open air and attached by means of traverses (brackets), insulators and fittings to or supports other structures (bridges, overpasses) .

The construction of the transmission line, its design and construction are regulated by the Rules of arrangement of electrical installations and Building norms and rules

Types of supports. Power line towers are designed for the construction of power lines with a voltage of 35 kV and above at a rated outdoor temperature of -65 ° C and is one of the main structural elements of power lines (power lines), responsible for mounting and hanging electrical wires at a certain level. Depending on the method of suspension wires, the supports are divided into two main groups:

- intermediate supports on which wires are fixed in supporting clamps;
- anchor-type supports used for tensioning wires; on these supports of a wire are fixed in tension clips.

Intermediate direct supports are installed on straight sections of the line. On intermediate supports with suspended insulators of a wire are fixed in the supporting garlands hanging vertically; on supports from pins insulators fixing of wires is made by wire knitting. In both cases, the intermediate supports receive horizontal loads from the wind pressure on the wires and the support and vertical - from the weight of the wires, insulators and the own weight of the support.

Intermediate corner supports are installed at the corners of the line with the suspension of wires in the supporting garlands. In addition to the loads acting on the intermediate straight supports, the intermediate and anchor-angular supports also perceive the loads from the transverse components of the traction of the wires and cables. At angles of rotation of the power line more than 20 ° the weight of intermediate angular supports considerably increases. At large angles of rotation anchor angular supports are established.

At installation of anchor support on direct sites of a route and a suspension bracket of wires on both parties from a support with identical drafts horizontal longitudinal loadings from wires are balanced and the anchor support works as well as intermediate, it accepts only horizontal cross and vertical loadings. If necessary, the wire on one side and on the other side of the support can be stretched with different pulls of the wires. In this case, in addition to horizontal transverse and vertical loads, the resistance will be affected by the horizontal longitudinal load [1].

Designs of supports. Reinforced concrete, steel and wooden supports are used in the construction of power lines. By purpose, the supports are divided into anchor, corner, end, intermediate; by the number of chains - single- and double-chain. On constructive execution of support are divided into free-standing and on distractions with hinged fastening to the base. Reinforcing the design of the traction support can be in free-standing supports. Braces can also be used. Unification and standardisation of supports help to increase the technical level of linear construction. As a rule, anchor-angular supports are calculated on a corner of turn to 60 °. The values of the limit angles of rotation on the intermediate-angular supports are indicated on the assembly diagrams of the supports and in the explanatory notes. Steel anchor-corner supports are also used as final ones. Instead of the raised intermediate steel supports of 35 sq.m. it is recommended to apply supports of 110 sq.m.

In the presence of feasibility studies, supports can be used in other conditions than those accepted in the design of supports. For example, supports for mountain lines can be used on rough terrain and on flat sections of lines passing in IV and V wind areas, supports for urban conditions can be used on routes of lines outside cities, supports for lines of higher voltage can be installed on lower voltage lines (for example, in areas with a polluted atmosphere, when crossing obstacles, etc.).

Installation of overhead power lines. The technological process of installation of the transmission line (transmission line) includes:

- preparatory works, during which they get acquainted with the area of the route, break the route, cut clearings, dig pits for supports, prepare various kinds of industrial, economic and communal premises;
- basic construction and installation works, during which places are transported, supports are assembled and installed, insulators, wires and cables are delivered and installed [2].

Assembly of supports. The process of assembly and installation of supports includes: laying of reinforced concrete racks and individual elements of steel supports, assembly of the support, installation of the support in the design position, its adjustment and fixing. As a rule, the laying of the support and its elements is made along the axis of the transmission line. In some cases, based on the terrain and the conditions of its rise to a vertical position, the laying and assembly of the support is made across the axis of the OHL route.

On sloping hills, laying and assembly of supports must be done along the axis of the overhead line, traverses towards the rise of the sloping hill. At the intersections of the transmission line with road and railways, rivers and ravines, as well as communication lines of the support are laid along the axis of the line, traverses and cable-resistant towards intersecting objects at a distance from the center of the support to the intersection of at least 1.5 height supports. This distance is considered: from the center of a support to a ditch edge at crossing with highways; with railways - to the projection of communication lines and auto-blocking, and in their absence - to the edge of the main ground; with ravines - to their eyebrows; with rivers - to the water's edge; with communication lines and OHL lines - to the projection of their extreme wire.

If during the inspection of the support before assembly separate elements of supports with damages are found, it is forbidden to start its assembly before correction and replacement of these or elements of details [1].

Lifting and installation of supports. Installation of reinforced concrete supports is made, as a rule, by jib cranes and cranes-installers of supports like KVL. If it is necessary to tighten the racks, a tractor is used. The diameter of the cylindrical drilled boiler should not exceed the diameter of the rack by more than 25%. At the big difference the top crossbar is established. Crossbars on intermediate supports are located along the axis of the overhead line. The time between the device of a pit and installation in it of a support should not exceed one day. At installation of two-rack and portal reinforced concrete support installation of one and the second steady, then installation of a traverse, the top ends of cross ties between racks and fixing of the bottom ends of cross ties is made. After lifting and installation by the crane of free-standing support in the dug ditches, supports should be temporarily unfastened by extensions, and then the lower and top crossbars are established. The final fixing of supports is carried out by backfilling with soil only after their adjustment by filling in sinuses of soil with layer-by-layer ramming.

Installation of wires and cables. To perform the main operation during the installation of wires - hanging on the supports of the wires - a number of preparatory operations are performed, including:

• delivery of drums with wires to the place of their unrolling;

• delivery of insulators and fittings to pickets, where they are assembled;

• bookmark anchors for intermediate anchoring of wires (if necessary) in long anchor spans [2].

Conclusions. The community is currently living in an era of progressive energy crisis. However, the intensive use of non-renewable energy sources for heating, vehicles, road construction machinery, agricultural machinery and various household appliances, produces a huge amount of oxides of carbon, sulfur and nitrogen. All this contributes to rising temperatures of the earth's and water's surface, causes environmental pollution, acid rain, and stimulates intense melting of ice, rising ocean levels, flooding of vast land areas, the emergence of cyclones and hurricanes covering entire continents. Therefore, the development of alternative energy solutions based on non-traditional approaches, as well as with the use of renewable sources is important. Research in the use of renewable energy sources is associated with the creation and practical application of solar and wind installations, hydroelectric power plants and various types of converters. The energy resources produced in this case, in addition to the intended use, can also be accumulated by various storage systems.

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ARTIFICIAL INTELLIGENCE AS A NEW ARTIST

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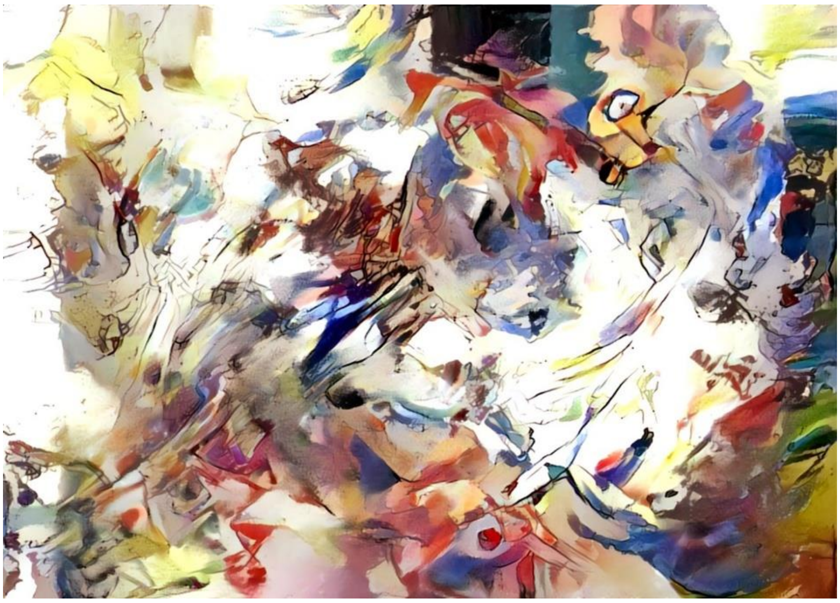
In our amazing world, technologies are rapidly developing, which, in our opinion, will radically change the world in the near future. One of the key technologies in creating such a future is artificial intelligence (AI). Why is this so? What role does it play in a person's life? Just look at science fiction films, where AI performs all the most complex intellectual and not only functions for a person. So AI can only perform logic functions? Of course not, progress has jumped so far that AI can create art that is comparable to human one. What creative directions are we discussing? Of course, primarily we are talking about music, paintings, and poetry.

It is a little hard to believe, but today AI is capable of creating a real masterpiece. Take a recent track by singer Taryn Southern as an example, what is so special about it? The music is written by artificial intelligence. Artificial intelligence Amper, created by the American company Amper Music, has composed the music for the new album of the singer Taryn Southern. The album's first single, Break Free, is already available online. The algorithm creates unique pieces of music of a specific key, length and musical genre in just a few seconds. The resulting melodies are then used when recording songs by real musicians. The developers do not disclose the technical details of the algorithm, so it is not known which machine learning technologies and training data are used by Amper. Amper's creators hope their technology will be the first step towards bringing computer and human together to create music. In March, Amper developers also raised $4 million to develop AI-powered music-making technologies.

From music we smoothly transfer to pictures. AI Microsoft painted a picture based on the composition "At the Dawn" of the “Alliance” group. The algorithm is based on the principles of synergy between music and painting, described by the great abstractionist Wassily Kandinsky. The idea of the project was to create a work of art based on music that the artist had never heard. The composition "At the Dawn" was chosen because it combines tradition and modernity – it does not lose its relevance.

Figure 1 - The Picture was written by AI



Using machine learning Azure ML Services and other tools in the Microsoft Azure cloud, experts from Microsoft partner Awara IT trained a neural network model based on Kandinsky's work and the music that inspired him.

And finally, let us consider how AI can write a poem. Google has created the Verse by Verse app to help people create poetry inspired by famous writers. Artificial Intelligence will create poetry based on the "great collection of classical poetry" by the most popular American authors. The user will be able to choose up to three poets, including Emily Dickinson, Walt Whitman and Edgar Allan Poe. When the user chooses the structure of their poem, the Verse by Verse application asks to compose the first line of the poem. After that, the algorithm will suggest several similar options. The user can edit or delete them — this is not required.

In addition to these stories, there was also a funny case when an AI, in writing an essay, indicated that robots need rights. The Guardian gave the GPT-3 text generation algorithm the task of writing a column of about 500 words in the clear and concise language on why people might not be afraid of artificial intelligence. He explained that he was not going to kill humanity, and people should trust robots more. In the article, AI explained why it is not going to exterminate people. In his opinion, this is a useless undertaking. He added that you should be careful with robots, and cited the example of Microsoft's Tay algorithm, which became a racist overnight and supported Adolf Hitler. According to the algorithm, artificial intelligence needs care and attention, like any living creature. In addition, robots should be given rights, because they are made in the image and likeness of a person, although they serve him. At the end, GPT-3 complained that his columns had not been published before, "probably because he is an artificial intelligence," and said that he was grateful to the readers for their feedback and would be glad to talk to them. PT-3 is an algorithm created by the OpenAI research company. He can translate texts into different languages, write poetry and news, write descriptions and even program.

It is extremely unusual to see an AI then become human-like in its form of thinking and computational abilities. Surprisingly, it seems to us that we should expect that in the future such a mind will write a masterpiece symphony, which will be compared to Mozart and Beethoven. We just have to wait and watch this area of technology with delight.

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DIFFERENCES BETWEEN CSS GRID AND CSS FLEXBOX

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A well-designed layout keeps users on the site, as it makes important elements accessible and easy to find. Weak layouts scare away visitors who leave the resource without finding what they came for.

In web design, a layout is how a site is displayed on the screen. HTML 5 has many elements that define the appearance of a web page: the title, navigation block, paragraph, footnote, article, and footer, each of which has a special meaning in creating a layout. Together, they form the four main sections of a page: the title / banner, search box, content, and footer.

Programming languages help make sites "alive", but each page is still based on good old HTML. When considering layouts, you need to consider the factors that determine their quality, namely sensitivity, viewing ports, display devices, browsers, and user screen sizes. A competent layout not only looks great, but can also retain the intended structure, fitting into screens with any possible aspect ratio. CSS is responsible for this adjustment.

During this work, the knowledge gained in the study of the Web was consolidated and acquired skills in working with Notepad ++ software, where we have outlined two of the most powerful tools: Flexbox and Grid.

Grid and flexbox can solve the same tasks. For example, make a stick-footer (when the basement of the site sticks to the bottom of the screens), Random Number of product cards or the framework of the entire Page.

Flexbox is a common abbreviation for Flexible Box Module, which is a one-dimensional layout model. This means that at the same time it can work only with a row or a column, but not with both at once. Flexbox effectively handles the alignment, distribution, and direction of page elements.

The CSS grid is a powerful 2D layout that allows you to work with rows and columns at the same time. At the heart of CSS Grid is an implicit division of the screen into a grid of 12 parts, which ultimately fit the elements.

One of the advantages of Grid - the gaps between the lines (gap), but the stench has already moved to the General specification. The gap can now be used under Flexbox, which adds even more confusion to the CSS Properties selection.

Gap is a padding representing a grid CSS property that allows you to specify the distance between div elements in a container. It works in the same way as the margin property and is usually measured in px.

But no less between flexbox and Grid there are significant differences.

flexbox - one-dimensional. This means that you can manage the location in the rows (see on Figure 1).

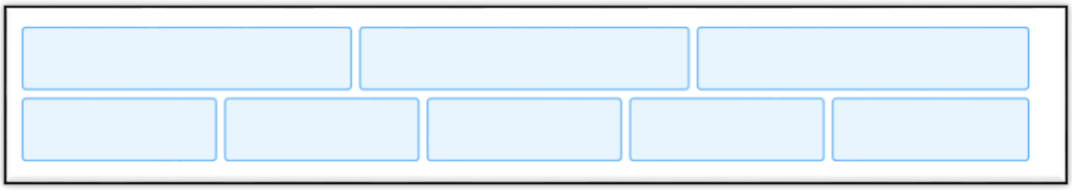

Figure 1 - Example of a grid on flexbox

Grid is two-dimensional. That is, you can move elements between rows and rows (see on Figure 2).

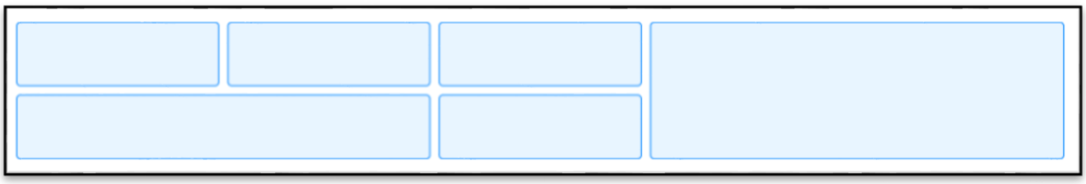

Figure 2 - Example of a grid on the Grid

For example, if the layout designer wants to place the logo, navigation and phone number in the header, it will be easier to use Flexbox. It's simpler: Grid can solve this problem too, but Flexbox will handle it much faster.

If you take the whole site, with a header, thematic part and basement, then we are talking about the two-dimensional interface. And although the Flex site can also be made, Grid will make it more efficient and reliable.

Thus, Grids are mainly used to build a grid of the entire interface. Flexbox is also for placing elements inside the grid. In essence, Grid is a container-based layout and Flexbox is a content-based layout. Both are efficient in their own way, although the CSS Grid includes more features and makes it easier to manipulate rows and columns of the grid. Before deciding which one to use, you should analyze the complexity, structure and content of the site you are creating. Here is another in-depth comparison: in the flexbox layout, the cell size is determined in the flex element itself, and in the Grid layout, the element size is determined in its container.

Grid is for the skeleton of the site, Flexbox is for the content. We recommend that you stick to this order. And as you work with these two properties, you yourself will begin to feel in which cases this or that technology is more suitable.

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THE BENEFITS OF 3D LASER SCANNING

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With the development of geodesy all over the world, each decade brings more and more instruments, survey methods and data processing. Devices are becoming faster and more accurate, the level of their automation is increasing, gradually replacing the human factor.

This time, the last decades have brought us technology such as terrestrial 3D laser scanning.

This is a non-contact technology for measuring 3D surfaces using special devices, laser scanners. In relation to traditional optical and satellite geodetic methods, it is characterized by high detail, speed and accuracy of measurements. 3D laser scanning is used in architecture, industry, road infrastructure construction, geodesy and mine surveying, archeology [3].

The principle of operation of a 3D laser scanner is that the device can carry out up to a million measurements per second, presents objects as a set of points with spatial coordinates. The resulting dataset, called a point cloud, can then be presented in three-dimensional and two-dimensional form, as well as used for measurements, calculations, analysis and modeling.

The main parameters of a laser scanner are range, accuracy, speed, viewing angle.

According to the range and measurement accuracy, 3D scanners are divided into:

- high-precision (error less than a millimeter, range from decimeter to 2-3 meters),
- medium range (error up to several millimeters, range up to 100 m),
- long range (range of hundreds of meters, error from millimeters to the first centimeters),

- mine surveying (the error reaches decimeters, the range is more than a kilometer) [1].

The last three classes, in terms of their ability to solve various types of problems, can be attributed to the category of geodetic 3D scanners. These scanners are used to perform laser scanning work in architecture and industry.

The viewing angle is another important parameter that determines the amount of data collected from one standing point, convenience and final speed of work. Currently, all geodetic laser scanners have a horizontal viewing angle of 360 °, vertical angles range from 40-60 ° to 300 ° [2].

Benefits of terrestrial laser scanning:

- unsurpassed shooting speed (from 50,000 to 1,000,000 measurements per second);
- reflectorless measurement technology, indispensable when performing work on laser scanning of hard-to-reach objects, as well as objects where finding a person is undesirable (impossible);
- high degree of automation, practically eliminating the influence of subjective factors on the result of laser scanning;
- compatibility of the obtained data with the formats of programs for 2D and 3D design of the world's leading manufacturers (Autodesk, Bentley, AVEVA, Intergraph, etc.);
- initial "three-dimensionality" of the received data;
- low share of the field stage in the total labor costs.

Although the first scanning systems are relatively recent, laser scanning technology has proven to be highly effective and is actively replacing less productive measurement methods.

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DIGITAL HELP FOR BLIND PEOPLE

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Nowadays, the Internet gives a wide variety of possibilities to be an active member of social life. It unites the global community of users into the whole and at the same time recognizes individuals. Internet technologies allow a person with disabilities to live more fulfilling life in the modern society in a way that has never been possible before. Today’s reality is that most activities in our life are carried on through the worldwide web, especially during the COVID-19 pandemic period. So, it is important to make online processes accessible and understandable for everyone.

Any software or equipment that helps people who are particularly or totally blind to interact with computers and smartphones are called assistive technology tools. The most popular assistive software is a screen reader. There are many screen readers available, including *JAWS* from *Freedom Scientific, NonVisual Desktop Access, COBRA* and so on. To a successful navigation in the world visually impaired people can use NavCog which provides real-time information about where an individual is, which direction they are facing, and other information about the surroundings. Also an application called *EyeNote* can communicate the value of paper money via tone, vibration or spoken word that is a real aid for blind individuals during making purchases or transactions [1].

There is also a complementary addition to the reader – the Braille display – a special kind of keyboards. Its duty is to display in Braille the same information which is announced with the oral speech. In practice, this means driving a Braille output device - a row of Braille cells with mechanical pins that pop up and simulate Braille characters under the user's fingers - or, more commonly, a text-to-speech synthesizer [2]. In complex, these assistants provide users with better information about the layout of the screen, possible actions and your current position on a website.

Increasingly, companies are realizing that expanding Internet accessibility for people with disabilities provides a range of business benefits. The survey results show that investment in accessible information and computer technologies gives the opportunities to achieve such business goals as: opening up new markets; maximization of employee engagement and productivity; providing high quality products and services; improving of supply chain management; minimizing risks of litigation. One of the most important aspects in service, especially online, is its affordability. Companies should focus on flexible design and promotion of assistive technology. For instance, some Internet pages have a version for blind people. Moreover, perfect idea is to install a special voice assistant or a call-button. By clicking this button a person could activate an info-bot, which will sound information tabs available on a site. One more advantage of such service is the opportunity to put voice question to the bot and have answers immediately, actually not only answers, but also instructions about the following actions. Providing flexible design (‘design for all’) means that no more additional devices are needed.

From the presented above analysis we can conclude that technology is playing a vital role in tearing down barriers, and artificial intelligence is making real inroads into improving accessibility. As a result, people with disabilities have access to plenty of assistive services which help them fully participate in social life and connect to the world.

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HYDROGEN ENGINES: A TECHNOLOGY OF THE FUTURE OR AN INEFFECTUAL EXPERIMENT?

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The question of alternative energy source for vehicles has been acute for the last few decades. Electric cars are the most popular offering of the modern industry but not the only one.

The purpose of this article is to analyse the advantages and disadvantages of hydrogen engines. Vehicles based on hydrogen combustion engines became as accessible as never before. For example, in 2007 *BMW* has launched limited car series called ‘Hydrogen 7’. The first serial model was launched by Toyota in 2014 and was called ‘*Mirai*’.

Figure 1. *Electrovan*

The first vehicle with hydrogen fuel cells was ‘Electrovan’ (Fig. 1) made by *General Motors* in 1966. It was equipped with hydrogen reservoirs which allowed to ride up to 193 km per single charge [1]. However, it wasn`t put into production and was only build in one copy. The first vehicle with hydrogen engine was build in 1979 by *BMW* due to oil crisis in 1970-s but it also wasn’t put into production [2].

In spite of the fact that this technology has lots of advantages over conventional combustion engines it is not so perfect as it seems.

Hydrogen engines are often fairly compared to electric engines as both of them were developed to be an alternative to combustion engine. Their main feature in a line with electric engines is eco-friendly working process. Another advantage lies in hydrogen engine’s efficiency which is 10% higher compared to conventional combustion engines. It means that a vehicle with a hydrogen engine can ride the 2,5-3 times longer distance using only 1 kg hydrogen that is equal in energy intensity and volume to 1 gallon of petrol.

Nowadays every city has a high noise level, especially near main roads, because of the large number of cars using combustion engines. Hydrogen engines are completely silent that is an undeniable advantage and would make cities much more quiet. The last but not least feature is the faster refueling compared to an electric vehicle.

In spite of the number of the mentioned above advantages hydrogen engines also have many

Figure 2. *Toyota Mirai* and *Nissan Leaf*

issues. For example, despite the exploitation of any hydrogen engine is fully ecological friendly, the hydrogen manufacturing process creates noticeable pollution. Also, a hydrogen vehicle is more expensive than a petrol one: *Toyota Mirai* costs 66900€ which is twice more compared to petrol or hybrid model’s average prices [3]. Hydrogen cars are more expensive even compared to electric cars (*Nissan Leaf* (Figure 2) costs approximately 35000$) [4]. Moreover, electric energy is much more accessible and cheaper than hydrogen fuel.

Another disadvantage is that hydrogen is very volatile that makes hydrogen engines quite dangerous. In case of engine tightness loss hydrogen will quickly exude and cause a powerful ignition or even explosion. Such disadvantages also influence infrastructure issues: hydrogen fuel stations are expensive and dangerous, so they are quite poorly distributed even in Europe or USA. In Norway, for example, hydrogen fuel stations were banned since 2019 due to the accident in which hydrogen station exploded.

Despite the fact that hydrogen engines can be a worthy alternative to usual combustion engines and even electrical engines, one might say that such type of engine won’t replace electric and combustion engines. Moreover, taking into consideration electric vehicles spread rate it may be possible to suggest that there will not be any demand for hydrogen cars. On the other hand, hydrogen engines may be used in portable power generators instead of petrol ones. Such replacement can slightly reduce their mass and sizes without any loss in efficiency. Besides, hydrogen power generators are also eco-friendly, noiseless and are able to generate thermal energy as well.

To sum up, hydrogen engines is the quite worthy technology that can stand in a row with combustion and electric engines, but the technology entails considerable expense and problems with infrastructure and safety. Even if this technology will not be used in cars, it could be a good alternative to petrol or diesel power generators or may be even used for power plants.

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ADVANTAGES AND DISADVANTAGES OF WIND POWER PLANTS

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Environmental preservation is one of the most important issues for modern society. This is why most companies that specialize in generating electricity switch to sustainable and environmentally friendly power plants, among which the most popular are wind power plants. Wind power plants have significant advantages over the solar panels and power plants, which operate on natural gas [1].

1. The most obvious advantage is complete autonomy of the station and its independence from the centralized networks. There is no need to monitor or supervise their operation.

2. The plants are environmentally friendly because wind is a renewable resource and its treatment does not cause harmful emissions into the atmosphere, land and wastewater as produced by oil, whose emissions produce nitrogen oxides and carbon dioxide, which are hazardous not only for the environment but also for people.

3. Power batteries take up little space, so they are more convenient than solar batteries, which take up a large amount of territory. They can be placed both on dryland and offshore where the speed of wind is much higher.

4. Low water consumption for power generation is a very important advantage. Because of this, wind turbines can preserve the global supply of fresh water, which became an important issue worldwide and is one of the Sustainable Development Goals listed in The 2030 Agenda for Sustainable Development, adopted in 2015.

5. Wind stations are long-lasting. They will be in operation for years due to an insignificant amount of wear and tear of the mechanics and structural elements.

6. Another important reason is providing excellent employment opportunities for the area’s population [2].

However, wind power plants also have a number of disadvantages, listed below [3].

1. Their operation depends on weather conditions. Wind is an inexhaustible resource, and wind power plants are able to generate electricity around the clock. However, in some cases there is not

enough wind speed for the station's stable operation and production of additional energy.

2. Wind turbines produce great noise "baffles" and vibrations, the animals and people living near the stations or working at the stations can be harmed.

3. Also, due to the great velocity of turning of the station's blades it can cause damage to birds, although such accidents are not common.

4. The cost is high and so is the length of time it takes to pay it off.

In conclusion, many of the described problems can be solved in the process of technology development. According to the International Renewable Energy Agency, despite all the cons, at the end of 2017 the capacity of wind farms was over 18.7 GW. This is almost half of the total capacity of Ukraine's energy facilities. So, the advantages of WPP definitely outweigh the disadvantages.

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A PROGRAM FOR DETECTING GEOMETRIC CHERRIES BASED ON THE ANALYSIS OF THEIR IMAGES

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Computer vision technology can rightfully be considered one of the most advanced and promising at this stage in the development of global digital computer technologies.

Computer vision (machine vision) [1] is a direction in the field of artificial intelligence, which includes algorithms for detecting, tracking and classifying objects by their images.

As examples of problems [2], in the solution of which computer vision is used, one can specify tracking and security systems, product quality control systems, recognition of objects and text documents, image search based on content, medical diagnostics, robotics, and others. Although the quality of solving the assigned tasks is incomparable with a human, but even this level is a significant progress in modern IT technologies.

Today, the number of areas in which computer vision is used is increasing every year. The agro-technological sphere has also been added to these spheres. For example, the use of computer vision technologies to calculate various geometric characteristics of certain objects by analyzing their images. Seeds, leaves, and also fruits of various plants (in particular, cherry fruits) can be used as such objects of research.

This work is devoted to the determination of the sweet cherry fruit in the photograph, and the calculation of its geometric characteristics based on the analysis of the data obtained.

As a library that implements all the functions necessary for the task, the OpenCV library was chosen - an open source computer vision library that allows both to identify objects in a photo and to determine various parameters of a specific object.

In order to determine the object in the image, it is necessary to pre-process the input photographic image, find the boundaries of the required object, calculate the necessary parameters of the object based on the obtained data, and eventually give this information to the user.

Image preprocessing is the preparation of a photograph for subsequent operations of the threshold transformation and finding the contours of the object. For a more accurate operation of computer vision algorithms, it is necessary to first remove digital noise from the image, reflections - those defects that can interfere with the recognition of an object. As such measures can be the adjustment of the brightness of the image, changing the parameters of which, you can more clearly define the boundaries of all objects in the photo.

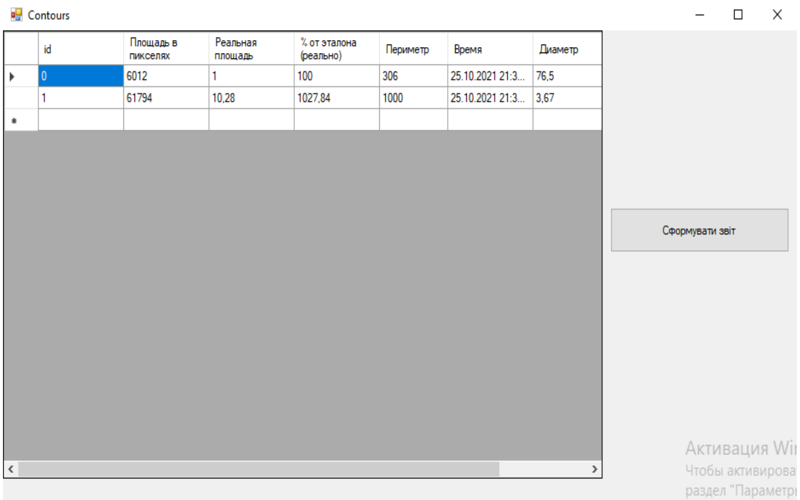

Figure 1. Example of image binarization

The next step is thresholding, that is, converting the image to a binary data type.

The conversion concept is quite simple [3]. The pixel values can be from 0 to 255. Let's say we want to convert the image to a binary image, that is, assign the pixel a value of 0 or 1. To do this, we can perform segmentation using CvThreshold (). If the Threshold (T) value is 125, then all pixels with values greater than 125 will be assigned a value of 1, and all pixels with values less than or equal to this value will be assigned a value of 0. This will change the photo to black and white (Figure 1).

The third stage is the detection of the boundaries of the object under study. The outline of the object will be its outline.

A contour is the outer outline (outline) of an object / object.

To determine its contour in this work, the method of contour analysis is used, which makes it possible to quickly and relatively accurately calculate the contours of an object (provided that the object is located on a colorless background and there is no strong digital interference).

First, using the CvFloodFill () function, fill the desired contour with a different color, then analyze the filled area through the CvFindContours () function and determine the boundaries of this object.

Figure 2. Calculated characteristics of objects

At the last stage, using the functions for calculating the area and perimeter (CvContourArea () and CvContourPerimetr (), respectively), determine the geometric characteristics of the cherry fruit, such as its diameter.

Then display the calculated information to the user on the screen in the form of a table or generate xls report (Figure 2).

The implemented program makes it possible to speed up the process of determining the geometric characteristics of sweet cherry fruits, in comparison with the manual calculation method, and to increase the accuracy of the final result.

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THE 'BREAKING THE FOURTH WALL' TECHNIQUE IN FILMMAKING

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The 'breaking the fourth wall' – this term migrated into filmmaking from theater. Spectators sitting in the hall see the scenery in front of them, consisting of three walls, among which all the action takes place. And the fourth one is addressed to the viewer. By the way, the term was coined in the 18th century by the French philosopher Denis Diderot. The fourth wall is present everywhere, from books and comics, to games and films, but it is presented there in different ways.

The purpose of this article is to research the principles and effects of the 'breaking the fourth wall' technique application. The essence of the fourth wall is to separate what is happening in a work of art from the real world. The heroes do not suspect that they are fictional, that the viewer is watching them, they do not notice the fourth wall and act as if it does not exist. Simply put, thanks to the fourth wall, the viewer or, for example, the reader, can more easily immerse themselves in the plot of the work. The purpose of breaking down this very wall is to blur this line between the story and the reality. The hero in the middle of the scene can look into the camera and begin to conduct a dialogue with the viewer, conveying any information to him. It doesn't matter what the subject will be, the contact itself is important. Sometimes just one glance is enough to convey the mood.

Figure 1 *Ivan Vasilievich Changes Profession*, 1973, director L. Gaidai

Let's look into the episode from the Soviet cinema production film where the character of Leonid Kuravliov urges (Figure 1) Soviet citizens to keep their money in a savings bank, if they have it, of course.

Another example is the scene from *Fight Club*, where the character of Edward Norton (Figure 2) talks through the screen about the past of the Brad Pitt's character.

Figure 2 *Fight Club,* 1999, director D.A.L. Fincher

The technique of breaking the fourth wall has taken on many forms. Moreover, the technique itself does not directly imply the wall destruction. Often characters like to «lean» on it rather than break it. This is often done as a joke or in order to deceive the audience by pretending that the wall is broken, although this is not the case. A simple example - the characters look at the camera and pretend that they are addressing us, the audience. Then the camera changes its angle and we see that it is the dialogue between the characters and their counterpart is represented. The wall remained intact. Another simple example is winking at the viewer. The actor winks at the camera or makes some kind of comical face as if complaining about the situation or the stupidity of other characters.

Another element of the mentioned above method is the ‘a part (in French ‘aside’) technique’. This happens when all the characters seem to ‘freeze’ on the spot , the main character turns to the camera and says something clever or funny. Then he turns back and the rest of the actors seem to ‘come to life’ again.

Figure 3 *High Fidelity*, 2000, director S.A. Frears

But this technique is most often used precisely to create a comic effect when characters comment on certain actions looking at the camera. It also works well for establishing some kind of connection between the hero and the viewer. The character shares his thoughts, emotions with the viewer, which later arouses trust increases confidence in this character and enhances empathy.

An excellent example of the destruction of the fourth wall without stopping time was presented by the hero of John Cusack in the film *High Fidelity* (Figure 3). He is constantly in close contact with the fourth wall. For him, the viewer is the only one with whom he can share his thoughts and experiences.


Figure 4 *House of Cards*, 2013, director Beau Willimon

The last thing this technique is used for is the interpretation of the plot. A great example of this is the series *House of Cards*. The hero of Kevin Spacey [Figure 4] regularly addresses the viewer with explanations of certain events.

To summarize, the breaking the fourth wall technique is very captivating and versatile. In addition to the already listed methods of using this technique, authors, plot writers and directors can come up with more and more, its perception depends on human imagination. The main thing is that the technique does not get out of the general creative work style. The technique of breaking the fourth wall was, is and will be quite popular, since thanks to it viewers can quickly immerse themselves in what is happening on the screen at the moment and in general action sequence as well.

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ISSUES AND TRENDS IN MODERN ECONOMY

CAUSES AND CONSEQUENCES OF STUDENT MENTAL HEALTH ISSUES

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Most often, people who study or work have psychological disorders [1]. At the moment, it is a fact that UK universities spend a large amount of money on psychological assistance to their students. Poor academic performance, grades, perfectionism or everyday relationships between undergraduates can cause stress, anxiety, panic attacks and even depression. Based on this, it is possible to conclude that education really affects the state of mind of a person. And this can even increase the possibilities for the suicide risk, because universities are the industry that is not much different from others in terms of suicide rate. Almost every third student in the UK has suicidal thoughts every year. More than a quarter of students experience an eating disorder. Depression and anxiety are the main reasons for students seeking help [1].

The purpose of this article is to research the most common causes for mental problems of academic youth. On the one hand, more educated people are often more attentive to their condition, and understanding the symptoms of mental disorders allows them to seek help earlier. The main causes for stress can be exams, financial problems, relationships at school or at work, as well as a sudden transition into adulthood. The most difficult period for students is the first year. Often this is due to a sharp change in the situation and new acquaintances, because even just getting to know a group can be a serious difficulty, a person may not be accepted by the society which they have just joined and this can cause psychological pressure. How a person will confront these problems depends only on them, that is, on their personal qualities and whether they are able to withstand stress. But it is unwise to expect that at the end of the first study year all these psychological problems will disappear, on the contrary, they can become more serious.

The causes for depression for students and staff, in addition to deadlines and financial constraints, are [1]:

- deep social isolation –people often have to work alone for months. Almost all the time is spent among books and articles, in laboratories**;**
- very high cost of error: since a student works on a project independently and, as a rule, alone, everything depends on their actions. A minor mistake at the initial stage can lead to the necessity to redo the work for several years. And again it should be accomplished be themselves and alone.
- all the mentioned above leads to a self-esteem decrease: ‘I'm not good enough’ is a very typical feeling for those who have just made a small revolution in science;

Most people think that depression is just a bad mood and do not take seriously those who face this problem. They think that watching a comedy or eating something tasty can cure an ailment. It is not the case, because depression can be of different types and everyone needs to be treated differently. What helped one person may not be effective for another depressed student, or even be harmful.

To conclude, mental health problems should not be neglected. In case of any minor disorder it is necessary to turn to knowledgeable people as soon as possible, because it can develop into much more serious problems. It is vitally important to be especially careful when interacting with people under academic stress including family and friends in order to support them in case of anxiety or mental distress.

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IMPACT OF THE CORONAVIRUS PANDEMIC (COVID-19) ON THE GLOBAL AND UKRAINIAN ECONOMY

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Today, some businesses are suffering from significant losses due to the coronavirus pandemic. This is not happening only in individual countries, but around the whole world. Restrictions, prohibitions, new rules of existence for business, force entrepreneurs to adapt to new conditions, or as the worst result - to completely lose their businesses.

Thus, since 2020 some of the largest companies in the world went bankrupt due to the coronavirus epidemic:

1. Debenhams

British fashion retailer Debenhams will liquidate its business in Ireland, where 11 stores will be closed. In total, the chain of stores employs over 20,000 people.

Among other things, the retailer will put up its outlets for sale. The management of the network confirmed that the decision to terminate the business was related to the losses incurred by the company in connection with the coronavirus epidemic.

2. JCPenney

Among the bankrupts was the American network JCPenney, which filed for bankruptcy on May 15. The company's debts reached $ 4.2 billion. The well-known company has suffered losses for the ninth year in a row. The company's troubles were exacerbated by the coronavirus pandemic, forcing management to close the remaining 850 outlets.

3. J.Crew

J.Crew was the first major American retailer to launch a domino effect during the coronavirus pandemic. The company filed for bankruptcy on May 4. The company's debts reach $ 1.7 billion. The company still plans to reopen 181 retail outlets, 170 factory outlets and 140 Madewell-branded clothing stores after the epidemic's restrictions are lifted.

4. OneWeb

OneWeb, an internet startup that received support from SoftBank and launched 74 satellites into space, filed for bankruptcy back on March 27. SoftBank was a key investor in the startup from the very beginning, but despite the support, the company collapsed, and so quickly that it came as a surprise to everyone.

5. Pioneer Energy

Pioneer Energy is a large American oilfield services company headquartered in San Antonio. On March 2, the company filed for bankruptcy.

6. Flybe

The British airline, one of the largest regional carriers in Europe, also went bankrupt. All flights were canceled on 5 March. Experts predict that a wave of airline bankruptcies is yet to come.

At the same time in Ukraine we can observe rather different situation. Analytical company YouControl has published data on the closure and opening of businesses over the past year. And although from the beginning of the quarantine, entrepreneurs themselves predicted the closure of more than half of micro and small enterprises, in reality everything was not so apocalyptic. Moreover, Ukrainians were not afraid to open new enterprises either.

Most of all individual entrepreneurs registered in February, and least of all - in April 2020, that is, immediately after the introduction of the lockdown. Then 8549 entrepreneurs were registered, which was the lowest indicator in the last 4 years.

Experts advise taking into account the fact that some spheres, on the contrary, have benefited from the "closure" of the country. First of all, we are talking about delivery services, and these companies often register their employees as sole proprietors. This segment has grown before, but in the past year it has developed much more actively.

The figure is taken from [2]

The company "Opendatabot", for its part, analyzed in which areas during the year of the pandemic the number of individual entrepreneurs has increased, and in which - less.

These data fit well into the coronavirus realities. So, the couriers-sole proprietorship, which we have already mentioned, has increased by 2.8 thousand, or 353% more. In terms of quantity, the biggest gains were made by “IT specialists” who are comfortable working remotely.

Most of all new enterprises were opened in the capital - more than 15.5 thousand. Next, by a serious margin, are the "traditional business centers" of Dnepropetrovsk, Odessa, Lvov, Kharkov and Kiev regions. Almost 18 thousand enterprises have been registered in these regions. Luhansk region became an outsider - less than 500.

To sum it all up, we can definitely say that all businesses that choose digitalization as a priority area, introducing remote work for its employees, and transition of their basic business processes in the online space remain stable on the market or even experience a slight growth.

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THE ROLE OF THE MASS MEDIA IN TOURISM

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Humanity, in the twenty-first century, lives in a world immersed in media.

The mass media have been a part of our lives for decades. As humanity needed a means to convey information, the mass media has evolved with advances in technology and has been influenced by various socio-economic and political forces throughout history. Previously, the mass media was limited to newspapers, magazines, radio and film, but now, thanks to technological advances, various new types of the mass media have emerged, such as television, social networks, the Internet etc.

Media is used as the main source of information for tourists. The recent research has shown that the mass media plays a critical role in raising awareness of a destination and influencing tourists' intent to visit. The mass media plays a vital role in accelerating the world's travel industry.

It is because of the mass media that we can say: "Tourism is the largest industry in the world". There was a time when people traveled in search of adventure and explored new places without knowing how this place used to be but now, due to the stressful life, travel is more of a vacation, and people want to know everything about the place where they live, and the media help them do it.

While this is not always beneficial, in many cases the bulk of the money spent by tourists comes from airlines, hotels and other multinational companies. The media have a profound effect on the lives of people in the 21st century. Different types of mass media have different effects on people. These media are driving the new and growing travel and tourism industry, which is now a huge part of our economy.

Since numerous studies have shown that the mass media has a serious impact on the tourism industry, it can have both positive and negative consequences.

The mass media positively influences the image of a destination when stories represent or portray a specific location. However, some stories have also revealed the negative effects of dire exposure to photographs of the destination and, in addition, the visits of travelers to destinations through the media.

A moderately dire picture of Egypt among Americans has emerged as a result of news of fear in the country. In addition, news on the level of national crime in Australia was found to have a negative impact on a specific, for example, destination.

In particular, these studies demonstrated the important role of the media in the tourism industry and recommended maintaining good relations with the media in tourism to avoid possible unpleasant events.

Let us consider types of the mass media:

TV. There are various TV channels that show documentaries from different countries and highlight their rich tourism heritage. Fictional shows have also had a major impact on the development of tourism, especially in the twentieth century. Media-oriented tourism demonstrates that people visit places where films and television programs have been recorded.

Film. Watching movies is a popular activity around the world. Cinema tourism is characterized as travel-to-screen trips of holidaymakers that have been highlighted in films, television or videos, which are also referred to as media-driven tourism. The study found that the films especially influenced crowds: it created strong intentions to visit filming locations.

Print media are books, magazines, brochures and newspapers. This type of media has been popular with reading enthusiasts and helps in providing detailed information to tourists. Newspapers have also been part of the tourist decision-making process. Nowadays, the craze is shifted towards magazines, which have a greater impact on the tourist's consciousness.

Internet. Today, people generally perceive the Internet as the most used source of data. The Internet has essentially reformatted the way people accumulate tourism-related data when they are about to travel and buy a tour. The Internet is currently seen as a major factor in the development of the tourism industry.

Social networks. It is one of the fastest growing media on the Internet and plays a very important role in the travel industry. It is not just a means of communication, but also a means of exchanging information. It is most popular with young people and its role in the tourism industry is growing every day. Some of the social media that make a big contribution to the travel industry are YouTube, Twitter, Instagram etc. YouTube has many channels that can inform you about almost every travel destination on earth. Also, now there are a huge number of bloggers who travel the world and share their impressions.

The survey concluded that there are two types of the mass media: print and electronic. Each type of media has a different reaction from people. Social media is more popular in today's context. The media, if not used carefully, can also have a negative impact on the tourism industry. But we cannot ignore the fact that this is one of the most important reasons for the development of tourism and travel in the world.

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SOCIAL PROTECTION SYSTEM FOR THE UNEMPLOYED

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Nowadays, there is one of the main problems that affects all countries of the world – unemployment of the working-age population, which arises in connection with economic fluctuations. It can be influenced by the forces of social policy, which is manifested in the social protection of citizens from unemployment. What is unemployment? Unemployment is those people who make up a part of the economically active population who have every opportunity to work, but due to various problems they cannot find a permanent job.

There are various reasons for unemployment:

1. Seasonal changes in production levels. Some production depends on the season.
2. Changes in the demographic structure. An increase in the number of able-bodied population increases the likelihood of unemployment.
3. Technological progress. New technologies appear that replace hundreds of jobs.
4. Economic downturns that affect the decline in labour demand.
5. Changes in consumer demand for goods and services, which in turn directly affect jobs. With the disappearance of certain goods, professions can also disappear.

Based on the above, we can formulate the main forms of unemployment:

1. Structural unemployment depends on changes in technologies, with the emergence of new technologies, as well as with the advent of new goods, which push old ones out of the market.
2. Fractional unemployment is associated with the transfer of an employee from one job to another (this process can take a long time).

3. Cyclical unemployment is associated with insufficient aggregate demand for goods and services, which causes an increase in unemployment in those industries where these goods are produced.

Table 1. Ranking of Countries by Unemployment Rate

Country/year	1999	2004	2009	2014	2019	2020
USA	4,2%	5,5%	9,3%	6,2%	3,7%	8,1%
Ukrain	11,9%	8,6%	8,8%	9,3%	8,5%	9,0%
China	3,1%	4,2%	4,3%	4,1%	3,6%	3,8%
Canada	7,6%	7,2%	8,4%	6,9%	5,7%	9,6%
Australia	6,9%	5,4%	5,6%	6,1%	5,2%	6,5%
Germany	8,6%	10,3%	7,7%	5,0%	3,2%	4,2%
Germany	15,6%	11,0%	17,9%	24,4%	14,1%	15,5%
Italy	10,9%	8,0%	7,7%	12,6%	10,0%	9,1%
Luxembourg	2,9%	3,7%	5,5%	7,1%	5,4%	6,3%

Based on the data in the table, we can conclude that in 2019 the percentage of unemployed people is lower than in previous years. This happened due to lower wages and increased market flexibility.

Let us take America and Luxembourg for comparison. In the United States today, unemployment benefits are given to people without work, and about 90% of the adult population receive a one-time payment of $1200 (and + $500 per child). The minimum benefit payment is $648 and the maximum is $2,730. In Luxembourg, upon dismissal or loss of work, the state will make a payment in the amount of 80% of the salary, it can be received throughout the year. The monthly payment amount exceeds €3,000, but it will decrease every month.

At the same time, not all Americans are eligible for benefits. In many states, freelancers and some agricultural workers are less likely to receive benefits. Each state sets its own maximum benefit amount. Basically, this is no more than half of the last salary. The allowance is paid for 26 weeks. But it can change from state to state. The unemployed people are also provided with health insurance.

Forbes has compiled a list of countries that have the most generous social security systems. Japan holds the last place, where the unemployed people will be able to receive 67% of the previous salary on benefits, the payment depends not only on the length of service, but also on the age. This list also includes Switzerland, Luxembourg, and Norway. Denmark has become the leader in the most generous support system, the loss of a job threatens to lose 10% of the salary, and the remaining 90% can be received by a citizen in the form of benefits over the next 4 years.

Unemployment is inherent in every country in the world, and for this, the state policy should be pursued to reduce unemployment, good social support for the unemployed, and information about a vacancy. But everything does not all depend on the government and entrepreneurs who provide jobs, but everything comes from a person, from the desire to work and make his life better.

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THE ROLE OF THE G-7 COUNTRIES IN THE MODERN INTERNATIONAL ECONOMIC RELATIONS

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In the context of modern globalization, the level of economic development of countries and quality of life plays a significant role, because it is from these indicators that countries achieve their leadership. Leading countries have the opportunity to identify new international threats to address them. The "Big Seven" is one of the most important actors in international economic relations because economic problems are among the reasons for the creation of the group. In view of this, the substantiation of the role of the G7 countries in modern international economic relations is becoming quite important and relevant.

The aim of the article is to analyze the role of the G7 countries in modern international economic relations, determine the conditions and factors for achieving global leadership, as well as analysis of the main socio-economic indicators of these countries.

Research results. The strategies of formation and development of such leading countries as the USA, Great Britain, Canada, Germany, France, Italy and Japan have their certain features. These strategies are based on a model of certain economic development in a country. The general patterns in developed countries are that the mechanism of their action - a developed market economy, as well as the use of innovative models of development. [2].

The G7 countries are distinguished by their inherent global leadership. Therefore, it is worth considering the factors that influence the country's achievement of global leader status. The first and most important factor is the advanced economy, which is determined not only by a high level of GDP, but also the importance of the country in the world market of trade in goods and services, the participation of foreign investment in the country's capital. Also important are investments in leading industries that can affect the world economy. The main source of an advanced economy is the ability of people, intellectual capital [1]. This factor ensures the growth of production capacity without the corresponding costs of raw materials. That is, the feature of the advanced economy is investment in human capital, improvement of social services and security.

Innovation plays an equally important role in shaping the leading countries. The UN News Center has recognized the United Kingdom, the United States, Switzerland, Germany, the Netherlands and Sweden as world leaders in innovation. It should be noted that the priority areas for the development of innovative activities for Germany, the United States and the United Kingdom are space research, development of energy, health, bio- and nanotechnology, information and computer technologies [4]. In order to understand the share of influence of the "Big Seven" on the system of international economic relations in general and individually of its member countries, we analyze the socio-economic indicators of each of them, in particular the size nominal GDP of the leading countries in 2018 (see Table 1). [5].

Table 1

Countries	**Nominal GDP, billion US dollars**
Great Britain	2 975,557
Germany	4 160,925
Italy	2 244,767
Canada	1 797,170
USA	20 289,987

France	2 860,018
Japan	5 451,452
Together	19 489,89

The data in the table show that in modern conditions, as in recent decades, the leader in the world economy is the United States. Thus, the nominal GDP of the six countries analyzed amounted to 19489,89 billion dollars USA, and **the United States** – 20 289,987 billion dollars. USA. This leadership is ensured by the advantage of this country over other countries in terms of scale and wealth of the market, as well as the level of scientific and technological development and a high degree of saturation of the economy with information technology. The highest level of GDP in the world shows that the United States spends more than any other country on current consumption and investment. The main sources of GDP in the United States are: innovative high-tech products, financial services, as well as the production of gasoline, machinery, machinery, aerospace products, telecommunications, chemical products, consumer goods, mining. [8].

Japan ranks second in terms of GDP. It is a large island country with almost no natural fuel resources. This level of development is ensured by building the country's economy on the so-called "three whales" - high technology, tourism and a developed structure of exports and imports. Among the main sources of GDP are electronic equipment, transport engineering, automotive and shipbuilding [6].

The third position is occupied by **Germany**. In 2018, GDP increased by $ 175 million. US compared to 2017. The main reason for this phenomenon was that residents increased their spending by 1.9%, while the government increased spending by 2.8%, as well as additional increased investment in the country.

France's economic recovery in 2018 was driven by rising consumer spending. In general, France is a highly developed nuclear and space country. The leading industry is mechanical engineering. The electrical and radio-electronic industries, as well as the chemical, oil refining and petrochemical industries are developed, which provides it with the fourth place in terms of GDP among the analyzed group of countries.

The fifth place is occupied by **Great Britain**, it is "supported" by the sphere of financial services and industry, in particular mining - 2.2% of GDP. No less important is the extraction of oil and gas from the North Sea, which significantly reduces government spending.

Over the past decade, **Italy**, which ranks sixth among the G7 countries, has gone through two recessions, increased its external debt, and therefore its GDP is recovering rather slowly. The low level of GDP is characterized by a large share of the unemployed and income inequality between the industrialized northern part and the crisis in the south.

As for **Canada**, its GDP in 2018 increased by 0.7% (compared to 2017). This was due to a decrease in fixed capital investment, a decline in the mining and oil industries and a decrease in the country's exports.

Economically developed countries are part of the G7, play a significant role in the world economy and international economic relations, due to the highest shares of GDP in the analyzed countries, as well as the level of technological progress. Together, these countries can influence policy in official world institutions. For example, almost 50% of the votes in the World Bank and the International Monetary Fund belong to these leading countries. They also have a huge influence on the World Trade Organization and the United Nations Security Council. The influence of leading countries on the development of the world economy is also due to the development and specialization of the economy of each of them. The United States has long been the leader in the world economy. This leadership is provided by significant investments in innovation, developed ties with other countries for the export and import of goods and services, and a high level of economic development. If we talk about all the participants of the G7 in general, it should be emphasized that these countries have a fairly large potential for scientific and technical research, which plays a significant role in the modern world economy. [7].

Conclusions. The G7 countries play an extremely important role in the current system of international economic relations, but the prospects for the spread of global leadership in these countries in the future are quite relative. According to forecasts, as the United States, Britain, Germany, Italy, Canada, Japan and France have long been on the international market, their potential will gradually decline and they will lose their positions. However, no one knows what awaits the world in the future, yet high levels of investment and scientific and technological progress, highly qualified scientists and engineers, and the development of the information space enable countries to -leaders to be a role model for other countries, and therefore have a significant impact on the development of the world economy [3].

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SIMPLE MARKETING TECHNIQUES TO INCREASE SALES

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Nowadays, modern entrepreneurship is not possible without marketing, especially when products are seasonal; in this case marketing techniques simply need to be applied. Every company has a planned profit, and it understands the fact that in order to get it, it is necessary to spend some money on product marketing. In this case, the base of potential customers will expand.

Marketing moves to increase sales and attract customers is something that every company needs during the low sales season. It means that every company uses it to increase their sales revenue, number of contracts signed and market share. Such marketing techniques are productive for all companies regardless of their field of activity.

Now let's look directly at some marketing strategies or techniques. The first and very important move is the introduction of content marketing.

Previously, when a company had a product or service that it was selling, in order to make it known, it sent out countless press releases, bought expensive TV ads, hired a paper advertiser and an entire call center for cold calling, bought billboards and much more that only it could afford. As a result, customers went to those who had the largest marketing budgets. But nowadays, the buyer has become much smarter and everyone always has the Internet and traditional marketing methods have become obsolete. Compared to traditional marketing moves, content marketing helps to find customers potentially interested in a product or service, rather than trying to "sell" it to a huge number of uninterested people. Let's note some of its important advantages: firstly, as already mentioned it is the attraction of pre-interested potential customers, secondly, reducing the cost of marketing activities and thirdly, it strengthens the company's credibility and creation of quality content will make the company an expert in the eyes of consumers and competitors alike.

The next method is the advertising. Everyone knows that it has a huge influence on many people. Marketers should not forget the fact that customers do not like to be deceived and false advertising can have the opposite effect. For example, the brand New Balance ran an advertisement that claimed the hidden technology of their sneakers activates glute muscles, hamstrings and other tissues. A number of consumers, who sued the company reported that the shoes, on the contrary, can injure people and later this information was confirmed by studies and that they were hurt by its use. The plaintiffs sought $5 million in compensation.

The third marketing move is the use of smart SMM. You should not think that this is something frivolous and not productive. On the contrary, SMM is a whole complex of measures for using social media as channels for promoting a company. It includes some aspects: strategy building, and the study of the target audience, planning. Also smart SMM helps not only to attract new customers, but also just to get to know them better - what they like, what they do not like, and what kind of reaction it causes them certain trends and innovations. That is, with the help of clever SMM you can firstly well know your customer, secondly to find new potential customers, and thirdly to increase the loyalty of current customers.

Another common and effective method is to use the upsell opportunity. If a company does not take an advantage of upselling opportunities, it simply loses a significant portion of its profits. Upselling is one of the most effective tactics for increasing sales. If customers have already wanted to buy your product - that is, they're in what we call a good buying mood - why not to offer them something else? According to statistics, somewhere around 25% of customers agree to purchase an additional product. The main thing is that the offered product is relevant to the order already placed. This method is already used by a lot of well-known companies.

The use of Call to Action (CTA) is also another effective method. Call to Action (or CTA) is an element that can be presented in any advertising tool, and is a direct "trigger" to convert the user into a consumer. For example, on the site of an online store "Call to Action" is the "Order" or "Buy" button.

We would like to ask a question: “Does the best product always win in the market?” The answer is: “of course not”. But it is possible to win without a better product, by having a better call to action. All you have to do is to make an offer you cannot refuse. For example, such CTA: "Join Free for a Month" at Netflix. What might cause a user to be reluctant to subscribe to the service? It may be a paid rate and the fear that the service will be difficult to unsubscribe from. Netflix removes the doubt through a short "Unsubscribe Anytime" note above the CTA. The red color of the button matches the color of the Netflix logo and stands out against a neutral background. Another example is the CTA: “Get a Gift” at Yves Rocher. The cosmetic brand does not call "Buy", but offers to choose a gift after ordering on the site.

In conclusion, we would like to say that, of course, there are probably thousands of ways to boost sales and increase the inbound flow of potential customers. The problem is that there is no completely universal solution. Remember, that an idea that has worked for hundreds of companies may not work for you. You can try a lot of different marketing tactics to increase sales and only some of them will really help your company. But you should never give up, because if you look and try, you will definitely find your way.

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INVENTORY ACCOUNTING AT THE ENTERPRISE

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To carry out the economic activity, enterprises of all forms of ownership and sectors of the economy use production stocks, which are the most important and significant part of the assets of the enterprise.

Inventory accounting is regulated by the National Accounting Regulation (Standard) 9 "Stocks". According to it, stocks are assets that:

– keep the company for further sale subject to normal economic activity;

– are involved in the production process in order to sell the products;

– are maintained for consumption during the production process, for performance of works and services as well as management of the enterprise / institution [1].

Inventories are included in current assets because they can be converted to cash within a year or one operating cycle.

The grouping is needed for the correct organization of accounting of production stocks. In different enterprises, production stocks may have different purposes depending on the function they perform during production. Therefore, it is important to correctly group stocks at the enterprise by their purpose and role in the production process. For rational accounting of stocks, which would contribute to operational work, planning and accounting, it is necessary to develop a detailed grouping of such stocks [3].

Purchased or manufactured reserves are credited to the balance sheet of the enterprise at the initial cost. The cost is determined depending on the method of receipt to the enterprise. Inventories can come to the enterprise as a result of:

– the production of the enterprise on its own;

– purchase for cash;

– introduction to the share capital;

– free receipt, etc.

The most important function of inventory accounting is to ensure the mutual independence of individual stages of production and sales. Proper management of inventory, planning of the production process in close connection with material and technical supply largely determines the success of the enterprise [3]. By contrast, neglect of this causes a low efficiency of the enterprise.

Inventories are accounted in the production process for one production cycle and are included in the cost of production completely without waste, including unused materials, which requires documentation of operations on receipt, consumption in production, publication of waste and inventory of residues of unused materials. It is important to obtain information about where production stocks were and why production stocks were used, how the cost process was carried out in order to study in detail the characteristics of the process of transforming substances and forces of nature into a new product of labor, it is also necessary to ensure the accuracy of inventory data and financial reports.

Consequently, stocks occupy a special place in the property of the enterprise. The efficiency of economic activity of enterprises largely depends on the evaluation and rational use of stocks.

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DIGITAL MARKETING AS AN EFFECTIVE TOOL FOR BUSINESS PROMOTION

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The digital era has not only simplified many of our daily tasks, such as communication, work or information search, but also provided many opportunities for business promotion. Due to the convenience, speed, and, consequently, the popularity of digital channels, their use in business for communication with the target audience has grown into a separate type of marketing - digital marketing.

Digital marketing is a broad term that includes all marketing channels and methods that people can use to promote products or services on the Internet, as well as on electronic devices such as televisions, mobile phones, and electronic billboards.

The main difference between digital and traditional marketing is that digital marketing exclusively uses digital channels, and this gives marketers more control, tools, and data to analyze the effectiveness of campaigns [1].

Digital marketing tools include all methods, means and activities that allow businesses to notify many people about new products, draw the attention of potential customers to a company, brand, service or product. The main digital marketing tools are: content marketing (publications on thematic sites, in a blog, etc.); e-mail marketing (mailing lists, which can also be part of content marketing); SMM (promotion of groups in social networks); targeted advertising on social networks; contextual advertising; display advertising; SEO (website promotion in search engines); partnership programs; audio and video ads (podcast ads, online radio ads, etc.)

Benefits of digital marketing:

1. Digital marketing can reach both online and offline consumers who use tablets and mobile phones, play games, and download applications. This way the brand can reach a wider audience, not limited to the Internet.

2. The ability to collect clear and detailed data. Almost all user actions in the digital environment are recorded by analytical systems. This allows specialists to draw accurate conclusions about the effectiveness of different promotion channels, as well as draw up an accurate portrait of the buyer.

3. Flexible approach. Digital marketing allows companies to attract an offline audience to the online market, and vice versa. For example, using the QR code on the flyer, we can direct the user to the site. And at the same time, thanks to the email newsletter, we can invite subscribers to the conference or other offline event.

Digital promotion can be done using a variety of resources. It can be paid services (contextual advertising, digital banner, etc.) or own platforms that the company uses free of charge (for example, a page on a social network), or communication channels that the company acquires as a result of its work [2].

Online marketing services can be ordered from the advertising agencies. These companies gather teams of specialists and provide online promotion services: from the implementation of targeted campaigns to the development of full-fledged strategies.

Digital marketing is an up-to-date, universal, effective way to promote goods, services, brands. It is a new trend in global marketing that actively and rapidly relegating traditional advertising to the background.

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STRESS IN THE MODERN WORLD: MAIN REASONS AND WAYS OF ITS REDUCTION

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The December, 2019 coronavirus disease outbreak led to the fact that in many countries strict quarantine measures were applied. As a result negative psychological impact of that cannot be unnoticed. There are numerous medical studies and corresponding reports about increasing cases of posttraumatic stress symptoms. But first of all we need to know what stress is.

Stress is an organism's response to a «stressor» such as an environmental condition. Stress is the body’s response to threat, physical or psychological challenge. An organism activates all systems to overcome this condition (stressful situation) as fast as possible. But prolonged stay in this state leads to exhaustion and possible mental illnesses.

Now when we know what stress is, let us consider what the stressors during quarantine are. The main reason is the actual duration and uncertainty about how long it will last. One day they say it will last for two weeks and other day they say it will be 3 weeks more. The second reason is the fears of infection. Fears about their own health or fears of infecting others, especially fear of infecting family members keeping stress plank very high. The third reason is frustration and boredom. The loss of usual routine and reduced social and physical contact with others have discomforted a lot of people from all over the world. In our opinion social distancing affects young people the most. At the times when they would attend the school or university, communicate with peers, making friend and beginning to understand what life is, they are forced to spend half of the day in front of the computer without having chance to hang out with friends in real life. The fourth reason is finance. A lot of people lost their jobs because of quarantine, as a logical result of that they have less money and not able to sustain themselves financially for long period of times. And fifth reason in the list is the incomplete information content. Poor information from public health authorities has led to uncertainty among people. At the beginning a lot of them said that coronavirus was not more dangerous than ordinary flu and they did not mention that vaccine would give no protection from being infected, but it makes the disease easier to endure.

But how stress levels can be reduced? The main thing that can be done is to keep quarantine duration as short as possible. Some research says that the duration impacts on consequences on mental health. Then as much information as possible for the people has to be provided. The reasons for quarantine or vaccination should be a priority thing to explain. Also the important thing is communication, although people are isolated, they should not forget about recent achievements of computer science. It cannot replace real life communication but with right equipment people can stay in touch and reduce their stress level. And we should remember that despite all the isolation measures that have occurred due to the coronavirus, that we are not alone and can help each other endure this difficult times.

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CUSTOMER JOURNEY MAP FOR BUSINESS IN CLOTHES SALES

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In the business environment, where there are often many competitive players on the market selling similar goods or services, in order to make them powerful and compete strongly, you need to understand your customer. Find out what the customer thinks, what makes him happy and satisfied with the purchase, and then he will definitely become a loyal customer of the company. To better understand the customer, marketing uses several of these tools. One of them is called a customer journey map.

The aim of the article is to investigate the client's way from the moment of interest to the repeated purchase, and to find out what he feels and what he does at different stages.

Customer journey map is a visual representation of the history of interaction of buyers with a particular company in the form of a table or infographics, and helps to look at the consumer, satisfy them, and improve customer experience, based on reliable knowledge.

In a classical expression the map of the client's way includes the following components: goals and expectations, actions or stages, emotional state, and opportunities for improvement.

The conducted research revealed a type of business which sells women's minimalist clothing online on its own site. The consumers are young women, usually from 21 to 35 years old, with average income, who have an active life position, and work in economics, business or journalism.

At the stage of awareness they decide to find comfortable, minimalistic clothes for themselves; open the Internet, look for clothes shops; find the site of the store.

The next step is the viewing, where they look through the range of clothes, looking for the necessary information about prices, sizes, delivery, methods of payment and terms of return of the returned product; read reviews about those clothes; choose what they would like to buy.

When a client decides to purchase a product, he notifies the manager of his desire to purchase the product, provides his order details, pays in full or prepays.

After the payment is made, the next stage is called the retention. At this stage, the customer receives the order number and determines the future choice. After the SMS-notification he goes to the post office for the request, tries the received clothing on, leaves a comment about the goods, and receives a discount on the next purchase in the form of five percent.

As for the possibilities for improvement, it should be noted that for the further development and optimization of the company’s work it is necessary to introduce a telegram bot or virtual manager, develop a mobile app that helps the consumer to order at any time of the day or night; many convenient payment methods allow the customer to choose the desired option of payment.

Considering all of the above, we can conclude that the customer journey map has an indirect impact on the company's work and due to this type of consumer research it was determined how the company, which sells women's clothing on the Internet through its own site should work, what can be redesigned, and how to optimize comfortable use.

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ADVANTAGES AND DISADVANTAGES OF INSURANCE MEDICINE

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The issue of healthcare was on the agenda, but it became the most relevant. The COVID-19 pandemic has caused great damage to the global economy and medical systems of the world's leading countries.

The main element of the health care system is health insurance. Therefore, the main task is to analyze health insurance as a phenomenon, to find advantages and disadvantages. It is also necessary to determine the feasibility of introducing national insurance in Ukraine.

Health insurance is a type of insurance against the risk of costs associated with receiving medical care. In most countries, it is a form of social protection of the interests of the population in the healthcare system.

In the event of an insured event, the insurer guarantees payment for medical care at the expense of the funds accumulated by the policyholders. Medical insurance allows to guarantee a citizen the free provision of a certain amount of medical services, in the event of an insured event (violation of health), if there is a contract with an insurance medical organization (insurer). The latter bears the costs of paying for the case of providing medical care (risk), from the moment the citizen pays the first contribution to the relevant fund. Ensures the right of working citizens and their family members to qualified medical care and material support, in case of illness and in other cases.

The purpose of health insurance is:

–protection of the health and working capacity of the company's employees;

–reducing the financial problems of the employer and employees related to the organization and provision of medical care;

–reducing the number of days of disability of employees by providing high-quality medical care and monitoring the recovery process;

–an additional incentive for employees to save their jobs and improve the quality of work.

There are two types of financial support systems for healthcare in the world:

–American system, which is based mainly on private sources.

–Western European system, which is based on public health funds. but it does not exclude the participation of the state in the formation of health funds.

The source of replenishment of these funds is the contributions of employers and employees, and the amount of employer contributions depends on the level of morbidity of employees.

Health insurance can be provided in both voluntary and mandatory forms. Both forms have their own advantages and disadvantages. At the same time, compulsory health insurance has one significant advantage – it ensures the regularity of cash receipts, thereby creating the possibility of planning medical care. In different countries, depending on the specifics of the development of healthcare, preference is given to one form or another of health insurance.

As for Ukraine, the public health system has Budget funding. Medical insurance is on the first position among the list of types of compulsory insurance defined in Article 7 of the law of Ukraine "on insurance". But so far, there is no single conceptual approach to the introduction of a mandatory form of health insurance.

Meanwhile, the health care system of the population of Ukraine is at a very low and unsatisfactory level. The part of the problem of improving the quality of medical services can be solved by voluntary health insurance, both individual and collective.

Subjects of voluntary health insurance are:

–insurance companies that have the appropriate license;

–policyholders: individuals and legal entities;

–medical institutions regardless of the form of ownership.

Relations between subjects of voluntary health insurance are based on two contracts: an insurance contract concluded between the insurer and the policyholder, and a contract for the provision of medical and preventive care concluded between the insurer and the medical and preventive institution.

A voluntary health insurance contract is concluded on the basis of the corresponding voluntary health insurance program.

Policyholders, individuals, have the right to conclude a contract both in their own favor and in favor of a third party who will be considered insured under this contract

Policyholders, legal entities, enter into contracts only in favour of third parties, that is, the labor Collective, which will be covered by insurance coverage under the voluntary health insurance contract.

The amount of insurance liability under a voluntary health insurance contract is determined by the list of insured events, in the event of which the insurer has an obligation to make an insurance payment.

An insured event is a request by the policyholder (insured) to a medical institution with health complaints during the validity of the insurance contract, provided that the symptoms of the disease correspond to the cases listed in the contract, which are considered insured.

The insurance amount to which the insurer is liable for payments is determined by the cost of the Voluntary Health Insurance Program chosen by the policyholder.

The program is an integral part of the insurance contract. Insurers can offer programs that differ in the circumstances under which the policyholder will receive medical care: on an outpatient basis, in a hospital, by calling a doctor or a doctor at home. In addition, programs can only be designed to provide assistance to children or adults, and differ in the list of medical institutions involved in the implementation of Health Insurance Services. Finally, programs differ in cost, which is affected by all of the above conditions.

Consequently, the insurer acts as an intermediary between the policyholder and the medical institution. It undertakes not only to pay for, but also to arrange for the insured person to receive medical care guaranteed by the contract. Accordingly, the insurance company makes an insurance payment by transferring the cost of treatment to the current account of a medical institution based on the invoices issued by the latter. At the same time, the insurer controls not only the compliance of the issued invoices with the list of services provided for in the contract, but also the quality of these services, protecting the policyholder in disputes.

Insurance medicine is an ideal guarantee mechanism for obtaining high-quality medical care. But it has its drawbacks. Insurance medicine has a big difference between budget financing medicine, namely in the principles of financing. During insurance medicine, the number of places in hospitals is reduced to optimal indicators, but each patient is provided with a high level of treatment. And in terms of budget funding, the state seeks to increase the number of hospitals. After analyzing current events, we can conclude that it is state support that is most effective for overcoming pandemics.

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FINANCIAL ASPECTS OF FORMING THE IMAGE OF THE REGION AS A TOURIST DESTINATION

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The competitiveness of the tourist area and its attractiveness largely depends on how effectively structured its economic space is and to what extent the most rational forms of territorial and sectoral organization are used. With the reorientation of tourists to new tourist-distant destinations, the need to form the image of the regions of Ukraine as tourist destinations becomes more urgent, which first requires the search and bringing in financial resources from all possible sources.

The purpose of the article is to substantiate the financial aspects of the development of a tourist destination for the formation of an attractive image of the region.

Formation of the region’s image as a tourist destination is an important tool for ensuring its economic, social, environmental development, as well as the formation of its competitiveness. At the same time, it is the level of tourism development that determines the possibilities of forming and spreading a positive image of the region as a tourist destination [1]. Ensuring the development of tourism in the regions of Ukraine requires an integrated approach and the application of such measures: attracting external and internal investments for the development of tourism; formation of proper infrastructure support for tourism development; formation of an organizational and institutional environment for the development of tourism in the region; stimulating tourist flows; development of joint tourism products and development of contractual specialization; development of tourism infrastructure based on the implementation of international projects; stimulating and promoting the development of new innovative types of tourism activities. First of all, active actions are needed on the part of regional authorities and the state aimed primarily at creating conditions for the dynamic development of tourism in the region, financing this type of economic activity, as well as promoting regional tourism products in the tourist services market [1].

Effective tools for the formation of a positive image of the region as a tourism destination are: regional tourism products; a large-scale advertising campaign for regional tourism products; slogans, sayings, slogans that form a general idea among tourists; close public relations; image positioning of the region’s tourism products; visual symbols on official documents, billboards, brochures, leaflets, souvenirs, videos and other information carriers; a calendar of events attractive for tourists in the region; a tourist map of the region. The image of the region as a tourist destination should be formed on the basis of the dissemination of relevant information through all possible communication channels: advertising in the media; special tourist TV and radio programs, including broadcast in foreign countries; printed advertising and information products; travel agencies and tourist information centers for Ukrainian and foreign tourists; presentations and exhibitions of regional tourism products in the regional, state and international tourism markets; official sites of departments of culture and tourism of regional state administrations; communication technologies on the Internet, blogs and forums; study and advertising tours, etc.

It is obvious that the formation of the region’s image as a tourist destination requires significant financial investments. Funding for the formation of the image of the region as a tourist destination can be carried out from various sources, namely from the state and local budgets, funds from tourism enterprises and foreign investors. Among the alternative sources, we believe, one can single out: 1) general tax revenues, which cannot be considered separately from any other budget items intended to maintain the well-being of the local population on a long-term basis. But this is possible if the reform of local self-government is implemented in Ukraine, if local budgets have sufficient funds to stimulate inbound tourism; 2) taxes from accommodation facilities included in visitors’ accounts. In order to ensure their intended use, it is necessary that at least 80% of tourism taxes are constantly directed to tourism-related projects; 3) taxes on income of individuals and a single tax on entrepreneurs who belong to the field of tourism and related economic activities; 4) budget revenues from annual or traditional events, such as fairs, mass events for holidays, etc., which can be purposefully directed to the formation of the image of the region as a tourist destination; 5) taxes on excess profits, which can be obtained as a result of increased taxes on the income of entertainment establishments, stadiums, natural monopolies, as well as enterprises engaged in the gambling business.

It seems expedient to develop and execute a budget for the formation of the regions’ image as a tourist destination, which will contribute to a clearer definition of the means of disseminating information about tourism in the region, the choice of sources and the establishment of the required amount of financial resources [2].

Budgeting expenses for the formation of the image of the region as a tourist destination can be done in two ways: 1) ‘from top to bottom’, when, first of all, the total amount of expenses for a set of measures for the formation of the image of the region as a tourist destination is determined and only after that they are distributed through separate channels of information dissemination; 2) ‘from the bottom up’, when, first, an estimate is drawn up separately for each type of attracted channels of information dissemination in order to form the image of the region as a tourist destination, and only then all the necessary expenses are summed up [3]. As the international practice of drawing up such a budget of expenditures shows, in order to ensure the effectiveness of such investments, it requires, first of all, the allocation of state budget funds sufficient for the non-commercial promotion of a tourist product in the domestic and world markets. A private business cannot conduct a non-commercial image advertising campaign of its country (city), since it promotes and sells only its own product. Therefore, the task of creating an image of the region as an event and tourist destination is an exclusively state task and priority should be given to budgetary resources.

Most European countries have tourism resources and develop tourism, invest heavily in promoting their countries in the world market, which average about 31.7 million euros annually. According to the UNWTO (World Tourism Organization) data, in order to additionally attract one foreign tourist, which provides an average of 1000 euros in the country’s economy, states spend from 3 to 10 euros in non-commercial advertising of a tourist product. Note that the tourism sector is characterized by a cumulative effect (investments should be made over several years and only then they will pay off), because one of the main laws of advertising is a significant volume, regularity and duration of action. An advertising campaign begins to bring economic benefits from a certain minimum threshold. If the amount of advertising spending is insufficient, the effect will approach zero .

To sum up, a country’s image in the world and its role in international trade are largely determined by the state and level of competitiveness of the international tourism industry. Recently, international tourism has become an industry whose role in the international economy has grown significantly due to its rapid development. Therefore, the formation of a positive image of the region as a tourist destination will ensure the growth of external and internal tourist flows; additional inflows of investments in the region; creation of new jobs both directly in tourism and in related types of economic activity; additional receipts to local and state budgets; improving the quality of life of the local population and the like.

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EVENT MANAGEMENT AND ITS ROLE IN TODAY`S WORLD

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Event management is the process of planning and conducting different events. Event management is an activity that is necessary to make the event you are organising unique, spectacular and outstanding. Any event must have a special twist, a certain highlight. And the essence of a reception is not just the creativity, but also its delivery, the features of its presentation – so that all participants of the event are surprised, if only a little.

Event management is a large list of different activities performed by an event manager. In fact, it's a project management algorithm. Like any other project, an event has a start and a finish. Event organization work starts with the determination of the objectives to be achieved through the upcoming event. Event organization does not end directly after the event is over, but after the results evaluation is done – whether or not the tasks have been performed. On the basis of these missions, event managers build logistics, concept, scenario of the event. After that, contractors are hired and other important issues are resolved.

Event-management includes such responsibilities as:

–development of style and concept of the event;

–search and selection of venues for the event;

–menu development;

–development of design of the event: drawings and sketches, the selection of necessary decorative and structural elements;

–setting up meetings with the hosts, creating a unique event scenario;

–providing services of a photographer and videographer;

–development of a bright show program;

–selection of appropriate artists and many other tasks.

According to the information of ICT Marketing, the shares of all types of events in the world market are represented in the following way: concerts and public events make up 38%, corporate events – 27%, advertising campaigns – 22%, and family events – only 13%.

The five basic steps of event management are [1]:

Step 1: doing a research. Research is carried out before the event, so there is a greater chance of the event to meet the expectations of the organisers and participants.

Step 2: elaboration of the event. The success of the event depends on new ideas that emerge from brainstorming and synthesis. Evaluation helps to ensure that the creative ideas are relevant to the aims and objectives of the event.

Step 3: planning.

Step 4: coordination. This is the stage where the plan is being implemented and the working issues are being settled.

Step 5: evaluation and feedback.

To sum up, running an event of any degree of complexity requires professionalism, flexibility in decision-making, the ability to anticipate and foresee unforeseen circumstances and to navigate new conditions quickly. Whoever does it best is the event business leader.

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BUSINESS IN METAVERSE, OR HOW WE WILL COMMUNICATE IN THE NEXT 5 YEARS

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The world is changing. Thanks to advanced technologies, new innovations are being delivered faster than ever before: self-driving cars, flying robots, gene editing, Blockchain technology, but there’s one change that will dwarf the rest, and it may be coming faster than you think: the Metaverse, which will change humanity in a fundamental way just like the smartphone did, and the Internet before it, and computers before that.

Nowadays, in the world of pandemics, the need to wear facemasks and a huge number of restrictions in communication with each other, we can barely imagine or predict what will happen next, so people must be ready for the most unexpected challenges. If we talk about our usual life, workplace, family relations and other things, people are becoming increasingly isolated and lost touch with reality. In everyday life, we obtain skills of teamwork, conflict resolution and effective interaction with each other. Distance learning and remote working have had an enormous impact on both children and adults both psychologically and socially, as there are not many opportunities to acquire soft skills, which are in the first place among the skills of the XXI century.

At the end of June 2021, Facebook CEO Mark Zuckerberg made a statement about what Facebook is planning for the next 5 years. The company will transition from being seen primarily as a social media company to being a Metaverse company. It has already announced its plans to create 10,000 jobs in the European Union in the next five years to work on the futuristic technology.

“Metaverse” is a virtual world, where you will able not only to play games or use any other entertainment activities, but do whatever you were doing in your real usual life. The term was coined by an American writer Neal Stephenson in his 1992 in a novel where he described the concept as a successor to the Internet. While his idea was fiction, it is slowly turning into a reality now. Today, it refers to real-time 3D virtual spaces where users can meet, create, socialize, work, buy goods and services and attend events with other people who are not in the same physical space.

The Metaverse will bring enormous opportunities to individual creators and artists; to individuals who want to work and own homes far from today’s urban centers; and to people who live in places where opportunities for education or recreation are more limited. At the same time, the

Metaverse could be the next best thing to a working teleportation device which Facebook is trying to develop.

Even if the idea of Metaverse sounds unreal, all of us still have a number of questions about this whole system. But at the same time, it is obvious, that this will be a new state-of-the-art way to communicate, to travel, to run business, we will might need some time to get used to it. Augmented reality is really about closing the gap between the Internet and the world around us by overlaying digital content and information onto our physical world, worlds will ultimately come together as the Metaverse where users can freely and instantaneously hop between worlds, including our own.

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GROWTH STRATEGY OF AGRICULTURAL SECTOR OF ECONOMY OF UKRAINE

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Since independence in 1991, Ukraine has pursued successive reforms to transform itself into an efficient market economy. International funds have supported a competitive Ukrainian economy in which small and medium-sized businesses are free to realize their potential. With the support of the Ukrainian government, several important results have been achieved recently, including the introduction of an electronic disclosure and reporting system for publicly listed companies, the creation of institutions that promote transparent and efficient asset trading, and the development of a bond market.

Producer support in Ukraine has been volatile over the past three decades, mostly due to fluctuations in market price support (MPS).1 Since 1992, MPS has been negative in most years, reflecting average producer prices below international reference levels, but with significant variation across commodities and time. Protected by import tariffs, prices for several meat products and sugar have been above international price levels. Those for several grains, sunflower seeds and milk have generally been somewhat below reference prices. The impact on prices of the state-owned Agrarian fund and the State Fund and Grain Corporation activities, and the annual on grain exports, is likely to be limited, and more recently the total MPS for the sector has been slightly positive.

Budgetary support in the form of tax benefits and input support continues to be relatively small, but has contributed to the positive overall producer support in the last two years.

Ukraine instated new support for small and medium sized producers. The area payments are higher for newly established farms during the first three years of their creation than for longer existing farms and require that the eligible land is used for farming purposes. Another new measure provides partial reimbursement of up to 30% of the investment for construction or reconstruction of grain storage and grain processing capacities.

Producer prices in several of Ukraine's export oriented sectors, notably for sunflower seed and milk, remain below world price levels. Export duties applied to some of the products, the market activities (though limited) of state-owned enterprises and limitations in export infrastructure may each contribute to this negative support. In order to take advantage of its agricultural competitiveness, Ukraine should take additional steps to facilitate exports, including continued investments into the logistics and transportation system in line with growing export volumes.

Ukraine is historically called the breadbasket of Europe because it has about 25 percent of the world's high fertility black earth soils. The country is also the world's largest exporter of sunflower oil and one of the largest exporters of grain.

The main crops that make Ukraine one of the world leaders are grains and forage crops, including wheat, corn, barley, sunflowers, sugar beets, tobacco, legumes, fruits and vegetables. According to the State Statistics Service, the average grain yield in 2019 increased by 2.2 quintals per hectare. If in 2019 it was 4.74 t/ha, in 2020 it reached 4.91 t/ha. The yield of some other crops also increased markedly: winter wheat – 4.17 t/ha, barley – 3.48 t/ha, corn – 7.14 t/ha, buckwheat – 1.33 t/ha, millet – 1.81 t/ha, sunflower – 2.51 t/ha, soybeans – 2.35 t/ha.

Agriculture also plays a huge role in the structure of exports. As of the end of 2020, the agricultural sector brought nearly 40% of foreign exchange earnings to the country, showing stability over the past three years.

Producing 90-100 million tons of grain crops annually, Ukraine maintains a leading position in the world. At the same time, the country is the third largest exporter of grain in the world (annual exports of 50-60 million tons).

As of 2020, about 280 thousand hectares of agricultural land under organic production were registered in Ukraine. Most of the land is concentrated under grain crops - 133.4 thousand hectares, or 46% of all agricultural land under organic. Over the past 10 years the amount of agricultural land under organic production has increased by 39 thousand hectares.

Although Ukraine is a major global producer and exporter of crops, its agricultural sector is under-equipped, and much of its existing agricultural machinery is outdated. According to the Institute of Agrarian Economics of Ukraine, in 2020, availability of fixed assets per one hectare of farmland was 20 %. With anticipated growth of production volumes and delayed demand, Ukraine's imports of agricultural machinery and equipment is expected to grow. Operational need for agricultural machinery and equipment is estimated at $20 billion in 2025.

Even today, there are new practices in agriculture, which involve digital and technological innovations that increase its efficiency.

Although foreign investors are well aware of the competitive advantages of agricultural land, Ukraine is also known for quality and innovation in the agricultural sector. Ukrainian agro-technical companies are developing modern solutions to improve traditional farming methods and introduce organic production.

Local agricultural machinery and equipment production is also expected to grow due to a Ukrainian Government program offering 25 % support for the purchase of Ukrainian agricultural machinery and equipment. However, according to the Center of Economic Recovery the market share of imported machinery in Ukraine remains high accounting for 67 %.

The major factor restricting agricultural development is access to credit and working capital. Domestic loans are expensive, and Ukraine's challenging business climate prevents local companies from attracting cheaper international funds. A major trend in the agricultural banking industry is operational capital financing for the purchase of plant protection products, seeds, fertilizers, and fuels. Bankers are more willing to offer credit to agricultural commodity producers of grains, cereals, and oilseeds.

The research identified the agricultural sector as one of the crucial ones for the economic development of Ukraine. The most important ways to improve the agricultural policy are to raise the level of direct and indirect financial support; to support innovations and scientific research through grant system; to stimulate the use of modern technology. One of the mandatory requirements for applicants to receive any state financial support for agricultural producers should be providing at least simple reproduction of soil fertility. The results indicated, that The Global Innovation Index in Ukraine somewhat improved, but remains low. Therefore, in order to increase the competitiveness of the agricultural sector of Ukraine, it is necessary to introduce innovative, in particular digital technologies, and also should export not only agricultural raw materials, but also products with added value.

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CORPORATE EVENTS

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Today, organization of corporate events has become an integral part of internal policy of companies. A corporate event is “a part of the overall corporate communications strategy” [3, p. 8]. Moreover, it is organized “to reinforce the philosophy through … activities” [3, p. 3]. One of its outstanding features is that internal employees are mostly included as attendees of an event of this type. Depending on the objective of an event, customers and representatives of the media can be present as external audience, too [2].

Companies hold corporate events to create team spirit, bring people together to develop interpersonal relationships and strengthen business ties. In addition to it, they aim at training coworkers, offering inducement and marking a crucial step [3]. Even taking into account the fact that organizing corporate events requires big investments, they are considered to be an efficient way “to deliver a message” [2, p. 3].

Organizing a corporate event cannot be improvised because a company presents itself, its goals to employees, customers and introduces its prospects, too. As a result, it affects an image of a company.

Corporate events are traditionally divided into three categories:

1. Corporate-events (HR-events) which are arranged mainly for a company's employees. Their goal is to unite a team and celebrate an event.

2. Trade-events that are organized for a company's customers, as well as for distributors, dealers, partners. The purpose is to present goods or services, find new partners, share experiences.

3. Special-events that are arranged to attract and increase interest in a company. The goal is to arouse interest in a company's brand and introduce new products [1].

Corporate holidays or parties, team-building activities, business trips, anniversaries, conferences, seminars etc. are corporate events that are differentiated by organization technologies. For instance, corporate parties provide informal atmosphere for interaction giving team members a chance to get to know one another outside of their office. Due to this fact a better working environment is created. Team building events include activities that improve collaboration skills and communication between coworkers [1]. Training seminars provide education for staff members to develop their competencies while trade shows offer an opportunity to promote the latest products of a company to public [2].

Typical venues for corporate events are restaurants, hotels, meeting rooms, convention centres, ballrooms. However, to impress and inspire their audiences companies can organize an affair in a garden, a castle, a museum, on a field.

To sum up, corporate events are an effective way for companies to engage with customers or employees. Any business that wants to build lasting relationships holds affairs of this kind. Hosting a corporate affair allows to enhance bonds with current clients and partners, and attract future ones.

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VARIANCE OF ECONOMIC DEVELOPMENT OF COUNTRIES AS A GLOBAL PROBLEM

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The economic development is the main objective of the nation and variation of which due to shock or innovation in different economic variables throws insight vision to the policy makers and economists. But there is a big variance of economic development between different countries that is the most discussed issue of economic development in the world. In modern scientific thought, global inequality is the main reason for increasing attention to globalization [1].

Economic development of different countries reaches different levels, but every year the gap between the most and least developed countries is growing.

History has seen several significant impetus to economic development, through which some countries have gained or strengthened their leading positions. One of them is the first wave of the Industrial Revolution, which was a ponderable impulse to accelerating the economic and social development of Western Europe and North America; however the spread of scientific and technological progress in the world was uneven. As a result, along with other factors, there was an increase in the difference between the level and pace of economic development of these countries and the rest of the world [2].

Another important impetus for the development of the world’s economies was marked by the world wars, in particular World War II. The processes of globalization blurred national borders and, as a result, state structures, politics, economics, social and cultural practices, as well as norms and traditions became more universal. The most developed national economies have determined the nature, forms and mechanisms of international relations, imposing ways of economic communication on other countries and the world community as a whole. For example, Holland of the XVIII century or England in the XIX century were not only leaders of economic progress, but also role models for individual European countries [3].

Nowadays many countries aim to reach a higher level of economic development and to take important world positions, but there is a big difference between e.g. G7 countries and developing countries. Most of the least developed countries have a great potential and resources for its implementation while their political problems interfere with reaching higher levels.

According to The World Bank, the highest value of GDP per capita is in Luxembourg (118360 USD), Singapore (98526 USD) and Ireland (93612 USD), while the lowest value is in CAR (980 USD), Somalia (875 USD), Burundi (771 USD). Ukraine takes the 94^{th} place in this list having only 13057 USD per capita [3].

In fact, only the peripheral countries of the first type try to present themselves as active participants in the world system and force the centers of the triad to adapt to the needs of their development. And it is these ambitions that must be central to future conflicts. Underdeveloped countries obviously need help in their economic development, so to solve the problem of such a difference in levels of development G7 countries may facilitate their economic formation and condition.

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CLOUD ACCOUNTING: ADVANTAGES AND RISKS OF ITS INTRODUCTION

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Automation has covered a significant part of each sphere of modernity and an accounting is no exception, so its development reaches a new level - the use of cloud technologies that are increasingly gaining momentum and have a positive impact on the accounting of business entities. But is it worth introducing the cloud accounting? What are the advantages and possible risks?

The following scientists pay enough attention to the study of cloud technologies in the accounting: M. T. Baranovsky, M. T. Belukha, O. I. Volot, M. O. Lyubimov, V. A. Kulyk, L. V. Titenko and others. [1]

Researchers P. Mell and T. Granz identified the main essence of cloud technologies – a model of providing, if necessary, ubiquitous and convenient network access to shared customizable computing resources that can be quickly provided and released with minimal management efforts or with interaction of a service provider. [2] It means that all accounting duties can be carried out regardless of location, only a modern device and the availability of the Internet are necessary. In general, there are enough reasons for entering the cloud accounting:

- unlimited access and simplicity of use;
- increased accuracy through an automated credential processing system;
- no capital expenditures on expensive equipment and licensed software;
- free upgrades and technical support.

Nowadays there is presented a sufficient number of Internet services used by accountants, based on cloud technologies. For example:

- SmartFin – provides the ability to plan and record working hours on different work schedules, a full set of functions for calculating wages, taxes, cost calculators and also creating documents, storing them electronically.
- BAF platform - is the technological feature that allows you to install and use 1C configurations: enterprise on this platform and vice versa. [2]

All these aspects indicate the feasibility of introducing cloud technologies in the accounting and provide new opportunities for progress for any enterprise. But there are always risks that you need to pay attention to, so the main ones are the following:

- lack of Internet access;
- loss of control over the cloud.

Security is one of the main fears that keeps managers and accountants from moving to the cloud. It is important to know that data transmission is carried out under protective protocols and in encrypted form. [3] However, in the event of third parties infiltrating, there is a risk of damage or theft of information, so valuable documents should not be stored on the cloud.

Consequently, cloud accounting will spread more and more every year, as it is a significant relief to maintain the accounting for any enterprise. There are plenty of Internet servers for this (SmartFin, BAF platform, etc.). Remote work is provided, so this will lead to a change in the number of employees and their labor standards. The main advantage is the reduction of costs: material, capital, labor and time consuming. However, the risks that may be associated with it make you wonder whether to introduce such the accounting. Data falsification and theft of the important information are the main weaknesses that are almost impossible to overcome, because the most important documents must be locally kept in the enterprise.

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THE PECULIARITIES OF MANAGEMENT ONLINE COURSES

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Recently, more and more attention has been paid to distance education issues. For several years now, trainings on working with distance educational programs have been held in Ukraine.

The advantages of distance learning are:

- saving (time and money),
- the ability to study from anywhere in the world,
- accessibility,

- variability,
- comfort when studying materials,
- adaptability to an inclusive environment.

Today there are a large number of both Ukrainian and foreign online courses that offer to study various types of management. It should be understood that management itself includes financial management, corporate management, innovative management, etc. Online courses allow, first of all, to build a theoretical base that will be necessary both for students studying management in their educational institution and for those who decided to familiarize themselves with the basics of the profession for personal purposes.

Having analysed the existing courses we found out that on the Prometheus platform, which is quite popular in Ukraine, you can take the following courses absolutely free of charge:

- SMS - Situation Management System (4 weeks, Prometheus platform)
- Management (7 weeks, Prometheus platform)
- Financial Management (6 weeks, Prometheus platform)
- Modern project management - the art of breaking the rules (4 weeks, Prometheus platform)

In its turn, the VUMonline platform offers the following courses:

- Project management (16 classes, VUMonline platform)
- Financial substantiation of management decisions (33 classes, VUMonline platform)

All courses are free of charge and offer a certificate after the course completion, but they provide only superficial knowledge of the specialty and are not an alternative to official education.

At the moment, there are no online courses in Ukraine that could issue a state-style certificate or equal to the official diploma a certificate of completion of courses. However, this practice is widespread abroad.

For example, the courses

- IT PROJECT MANAGEMENT – THE WASHINGTON UNIVERSITY

(Duration: 5 months, 2-5 hours per week)

Certificate and test of practical tasks: $ 537

The University of Washington has developed a program for IT professionals who plan to change qualifications and managers who want to improve their skills. Teachers of the university will introduce you to the basics and methods of project management in IT, tell you about the key skills of PM and management of distributed teams.

The program consists of three courses:

Strategic Applications of IT Project & Program Management,

Portfolio Management, Governance, & the PMO,

Leadership and Management for PM Practitioners in IT.

- INTERNATIONAL PROJECT MANAGEMENT – THE ROCHESTER INSTITUTE OF TECHNOLOGY

(Duration: 10 weeks, 8-12 hours per week)

Certificate: $ 299

The Rochester Institute of Technology offers an in-depth international project management course that is suitable not only for beginners but also for experienced PMs. On the example of practical cases, university teachers analyze the impact on the project of culture, languages and religions, regulatory and legal practices, the level of technological development and corruption, gender and ethical nuances, time zones, the political context of different countries. You will learn how to effectively manage distributed teams and what tools to use to increase their productivity.

- HARVARD UNIVERSITY also offers about 25 online management courses, including: Organizational Leadership

- Managing Yourself and Leading Others

- Succeeding as a Strategic CFO — Virtual
- Leadership Coaching Strategies
- Mobilizing Your Nonprofit Board.

Average rates are from $ 1500 to $ 3000. On the other hand, the university is a type of official certificate for the value of the results of the beginning and the period of passing the present.

Certificates of foreign universities are more readily recognized by employers, in contrast to Ukrainian ones. However, mistrust in online education remains virtually at the same level both in Ukraine and abroad. Indeed, despite the fact that the student receives the theoretical basis for each of these areas from the teachers, but to complete the overall picture and translate this knowledge into practice is already his personal task. A paradoxical result: on the one hand, the training is completed, and on the other, new knowledge is difficult to apply in reality.

In conclusion, we can say that if there are deliberate selection criteria and a clear goal, today it is quite possible to choose an online course that suits your goals and improve your managerial competencies at a convenient time, in a comfortable environment and with the best experts in the world.

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FOOD SECURITY AND LAND QUESTIONS

PROBLEMS OF LAND USE PLANNING

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As population and human aspirations increase, land becomes an increasingly scarce resource, calling for land-use planning. Land use is the term used to describe how the human use land. It represents the economic and cultural activities (those like industrial, agricultural, residential and recreational uses) that are practiced at a given place. Public and private lands often represent very different uses [3].

Land use planning is a systematic assessment of the potential of land and analysis of alternatives to determine the most optimal use and improve social and economic conditions based on the joint participation of representatives of economic sectors, stakeholders etc. The purpose of land use planning is to provide information support to decision-makers and land users in the choice and practical implementation of land use that best meets the challenges of preserving natural resources and ecosystem services for present and future generations. Land use planning tools and techniques at an appropriate scale should facilitate and encourage different and often competing land users to choose an option that increases land productivity, agricultural and food production resilience, improves land and water manageability, and meets the needs of society [1].

Land suitability assessment is an important tool for decision makers. This assessment allows you to select the best land use options, based on the biophysical potential of the land and the socio-economic conditions of the territory. This is a significant support in making decisions to optimize and conserve resources in specific landscape conditions.

According to the United States Environmental Protection Agency land use have specific and cumulative effects on air, water and environment quality, watershed function, generation of waste, climate, and human health. Land development and agricultural uses are two primary areas of concern, with a wide variety of potential effects [2].

Land development:

- Creates impervious surfaces through building of roads, parking lots, and other structures.
- Point source discharges from industrial and municipal wastewater treatment facilities can contribute toxic compounds and heated water.
- Some land development patterns, in particular dispersed growth such as “suburbanization,” can contribute to a variety of environmental concerns. For example:

Agricultural Uses:

- Agricultural land uses can affect the quality of water and watersheds;
- Agricultural land use may also result in loss of native habitats or increased wind erosion and dust, exposing humans to particulate matter and various chemicals [2].

As you can see, land-use planning is becoming complex and multidisciplinary as planners face multiple problems that need to be addressed within a single planning framework. It is important that local people and stakeholders be involved in all steps of the planning process to make it a successful plan. This will also ensure local acceptability and effective use of local information.

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LAND REFORM 2021: SALES OF LAND TO FOREIGNERS

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On July 1, 2021, the law on the opening of the land market, which has been long awaited for, was adopted. During the discussion of the law on the land market opening and after its adoption, conversations about the possibilities of foreign citizens and foreign companies that are offered the ownership of Ukrainian lands do not stop. The law announces the solution of this issue in an all-Ukrainian referendum. Until a referendum and positive decisions on this issue, foreigners cannot have the status of agricultural land owners, even through indirect victory through legal entities that are created and registered by the legislation of Ukraine.

After approval of such a decision foreigners, stateless persons and legal entities will be able to acquire shares in the authorized (composed) capital, shares, units, membership in legal entities (except in the authorized (composed) capital of banks), which are owners of agricultural land [1].

By any conditions, it is prohibited to acquire ownership of agricultural land for:

- legal entities, participants (shareholders, members) or ultimate beneficial owners who are not citizens of Ukraine - on agricultural land plots of state and communal property;
- legal entities, participants (shareholders, members) or ultimate beneficial owners who are citizens of a state designated by the Ukrainian aggressor state or the occupying state;
- legal entities whose ultimate beneficial owners are registered in offshore zones included in the list of offshore zones approved by the Cabinet of Ministers of Ukraine;
- individuals and legal entities that apply special economic and other restrictive measures (sanctions) in accordance with the Law of Ukraine "On Sanctions" in connection with the prohibition of transactions involving the land ownership [1].

According to the calculations of the Kyiv School of Economics, in the next few years after the opening of the land market, Ukraine will receive about two billion dollars, i.e. 1,5 percent of GDP growth.

Landowners, in addition to the right to freely dispose of property, will receive a number of other opportunities, one expert said. "Finally, the land can be used as collateral for lending. This will open up opportunities for farmers who lack funding. Or it will be possible to take a loan if a person has a share and wants to open, for example, a coffee shop," he explains. [2]

But most importantly - the market will increase the price of both sales and rent of land.

Due to such kinds of restrictions the land will be underestimated. In addition, in the absence of foreigners, there will be fewer foreign agricultural technologies and practices. The exclusion of foreigners is beneficial primarily to those who already work in the agricultural sector.

Thus, it is worth noting that currently for foreigners owning Ukrainian land resources is almost unrealistic. However, if the referendum receives a majority of votes in favor, the Ukrainian land market will undergo significant changes.

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USEFUL PROPERTIES OF TEA

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Tea is the specially dried leaves of the Chinese shrub plant (Assam tree). Black tea and green tea are leaves harvested from the same tea bush, but processed differently. Green tea undergoes almost no fermentation (oxidation processes). Black tea is subject to fermentation.

The chemical composition of freshly picked tea leaves differs from that of dried tea, which is obtained from that leaf during processing. It is more diverse and complex in dry tea. Not all of the chemicals present in fresh leaves remain in the dried tea pips. Some disappear without a trace, others undergo oxidation and are partially altered, while others undergo complex chemical reactions and give birth to entirely new substances with new properties and traits.

Research into the beneficial properties of tea has been going on for over 200 years and is not yet complete. As we have known tea contains at least 130 substances. Moreover, along with alkaloids (caffeine, theobromine, theophylline) that give this drink tonic properties, tea leaves contain biologically active substances - tannins, vitamins, macro - and microelements, essential oils and many different essential amino acids.

In tea, the phenolic compounds (tannins) give the drink unique medicinal properties that have a positive effect on the digestive, circulatory and nervous systems, also have a tonic effect on the human body, stimulate vital functions and eliminate fatigue [1].

In addition the beneficial effects of tea on the human digestive tract are the ability to adsorb harmful substances, so tea not only "cleanses" the digestive organs of microbes, but also performs a kind of chemical cleansing of the stomach contents, kidneys and partly the liver.

Finally, other properties of tannin make tea of various kinds an excellent preventive and therapeutic agent for digestion. It also has beneficial effects on the kidneys, skin and other organs of our body.

It is quite clear that tea has a comprehensive healing effect on all internal organs, deals with processing and metabolism, and, consequently, prevents diseases related to the violation of these functions [2].

In fact not every variety of tea is able to provide the same therapeutic properties on the human body. The reason for this discrepancy is the difference in chemical composition and the degree of solubility of substances in tea leaves [3].

To illustrate the difference between varieties and their same therapeutic properties on the human body we described some of them in this paper:

For men's health

For men, the advantage of black tea lies in the high concentration of micro- and macroelements and vitamins important for health. With heavy physical exertion and intense sports training, the body needs additional support. The drink will saturate him with vitamins, invigorate, improve his mood. Green tea is also good for men. It contains carotene, which stimulates hair growth and helps maintain hair. Hibiscus, herbal and all green teas are the best hangover cure. These drinks are good at detoxifying and helping to restore clarity of thoughts.

For women's health

Women need to choose healthy tea based on the problem that needs to be solved. So, herbal tea removes excess moisture, relieves swelling, it can be used in the preparation of home cosmetics. Green fights inflammation. Due to the high content of antioxidants, it prolongs youth, improves complexion, and maintains the tone of the body. Black and white teas with the addition of grated ginger root help in the fight against excess weight.

For sleep

Insomnia negatively affects the general condition of a person and the work of all body systems. Herbal tea can help improve sleep quality. It will soothe and have a mild hypnotic effect. To enhance the effect, it is recommended to add honey and milk to the drink.

For kidney health

Green tea is good for kidney disease. Of course, to get the most benefit, only a high quality leafy drink should be consumed. It normalizes metabolic processes, removes toxins, radionuclides and toxins, helps to reduce the size of kidney stones, and reduces inflammation. Herbal teas can also be used - they help cleanse the kidneys and improve their condition.

For heart health

Natural green teas and rooibos drink are useful for the heart and blood vessels. They strengthen the walls of capillaries, remove “bad” cholesterol, promote a gentle decrease in blood pressure, and reduce the risk of strokes.

For liver health

Black, red and green teas can help support the liver. They have an antioxidant effect, helping to get rid of toxins and stagnant bile. Fruit tea will support the body, and Ivan tea will help to dilute bile, improve peristalsis and heal the filtering membrane.

For skin health

Beautiful skin is an indicator of the health of the whole organism. Regular consumption of quality green tea without additives or with natural jasmine is a source of antioxidants and kakhetins. These substances protect the skin from harmful effects, slow down the aging process, improve blood circulation, and strengthen blood vessels. It has been noticed that Japanese and Chinese women have fresh and young skin. One of the main reasons for their timeless beauty is the frequent consumption of green tea. In addition, you can wash your face with a drink to moisturize and tighten the skin of the face, and restore youthful elasticity to it.

To summarize given above, tea, whether black, green, red is certainly extremely healthy. However, some people need to drink tea carefully to avoid harming themselves. Some categories of people should drink significantly less tea and be attentive to contraindications when drinking it.

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GLOBAL ENVIRONMENTAL PROBLEMS OF OUR TIME

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Today's environmental challenges make us vulnerable to disasters and tragedies, both now and in the future. Around the world, people are facing many new and complex environmental "disruptions". Some of them are small and affect only a few ecosystems, while others dramatically change the living conditions that we consider normal.

Our environment is critical to the existence of life on Earth. When we damage the environment with man-made waste, it leads to serious environmental problems for our planet.

1. Climate change.

First of all, here we are talking about global warming. It is this that has worried environmentalists and ordinary people around the world for several decades.

And this is the result of human activity – we are talking about greenhouse gas emissions. Global warming is increasing the temperature of the oceans and the earth's surface, causing melting polar ice caps, rising sea levels, and unnatural weather conditions that lead to floods, snowstorms or, conversely, desertification.

2. Deforestation.

Deforestation around the world is picking up alarming speed. This problem causes irreparable harm to the vital habitats of many plants and animals and leads to the loss of biodiversity and the deterioration of the state of important ecosystems, as well as to an increase in the greenhouse effect due to a decrease in the volume of photosynthesis. Yes, forest is a renewable resource, but the intensity of deforestation in the modern world is not comparable to the rate of its renewal.

3. Water pollution.

By dumping many chemicals into water sources such as the sea, rivers, lakes and oceans, we pollute the main source of consumption of all animals, birds and people. In addition, the dumping of plastic into the ocean has become a major killer of many aquatic organisms.

Every year, more than 26 million tons of oil products, a huge amount of non-degradable substances, products of the chemical and military industries enter the world ocean, which in turn affects marine life.

4. Destruction of the ozone layer.

About 30 kilometers from Earth, there is a thin ozone layer that absorbs ultraviolet rays. This gives us protection against many skin diseases, including cancer. The ozone layer is destroyed by freon-based aerosols, aircraft and spacecraft engines. Further destruction of this layer of the atmosphere can radically change the climate of the planet. Depletion of the ozone layer is a major cause of the rise in skin cancer worldwide.

5. Loss of biodiversity.

On our planet, there is a huge number of species of flora and fauna that live in different regions and natural zones. For several centuries the number of plant and animal species has been decreasing at a high rate. We have already lost about nine hundred thousand species, and this figure continues to grow. Based on its needs and requirements, humanity continues to destroy the natural habitat of living organisms, cutting down forests, reducing the number of reservoirs, changing the natural river beds, and so on.

6. Air pollution.

The most obvious danger of atmospheric pollution is the shortage of clean air, but no less serious problem is the planet's climate change and the further consequences of this process. The main elements that pollute the atmosphere are: emissions during the operation of industrial enterprises; exhaust from cars and other vehicles; radioactive objects; waste (household and industrial).

7. Soil pollution.

Soil is a resource that belongs to the category of non-renewable, in case of its loss or degradation, we will not be able to restore it in any way. Soil conditions have a direct impact on the food we eat, the water we drink, and our health – our internal organs and our lifespan. Soil pollution occurs regularly through the disposal of waste in the ground, and not only by enterprises, but also by ordinary people.

It is no exaggeration to say that the planet is our mother. It feeds us, gives us water, dresses us, and gives us comfort. But taking advantage of all these benefits, humanity not only does not take care of its main treasure, but also ruins it. Today there are many international organizations advocating for the prevention of environmental pollution and aimed at solving many problems. There are many ways to solve this problem, but it is necessary to understand that these methods do not work within a narrow framework. Dealing with environmental problems is necessary for all enterprises throughout the world.

The fate of our planet and our future generations depends on the present generation.

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ENVIRONMENTAL HAZARDS OF LITHIUM BATTERIES

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Nowadays, all countries operate powerful factories for the production of lithium-ion batteries for various needs. In the first place, they can be found in flashlights, phones and even cameras, but the advance of new technologies has reached the introduction of lithium-ion batteries in cars [1].

The purpose of this article is to research environmental hazards of lithium batteries and to compare them with the hazards from conventional battery types. The first comparison is of lithium-ion batteries with internal combustion engines, what danger they would pose in comparison with electric cars.

Statistically speaking, the emission of gases from internal combustion engine cars is harmful enough to endanger the outside world. Nevertheless, there is one disregarded problem. The production of batteries with lithium-ion composition will exceed the level of environmental hazard compared to traditional internal combustion engines. It is convenient to consider the harm of the battery to the environment using the example of an electric car for several reasons. Firstly, an electric car uses a huge number of batteries [2]. The impact of thousands of batteries installed in a car is much more revealing than the hazard of a single battery in a smartphone. Secondly, the benefits or harms of green technologies conveniently stand out against the background of traditional cars. Thirdly, the most common models of lithium batteries are most often used in electric vehicles. Next, the process of operating the batteries begins. In the process of driving, an electric car does not emit harmful gases unlike an internal combustion engine, however, these gases are emitted by an electric power station for the production of electricity. Nevertheless, even in this situation, an electric car will be at least twice as environmentally friendly.

Despite the demand for lithium-ion batteries there are many flaws that globally affect both humans and the environment. In the production of lithium-ion batteries, the manufacturers do not reveal all the nuances, such as spontaneous combustion or explosion. All the mentioned above issues occur right at the time of development: design error, technological flaw, as well as operational support that oversees the distribution of energy in a device, in a car, in a phone. Indeed, the first samples of lithium-ion batteries were not very safe. When operating such a battery, there was a risk of short circuit inside the cells, heating and even fire. This could usually happen at the end of the battery life due to the poor chemical stability of the battery components. The main weakness of lithium-ion batteries in electric vehicles is the use of organic liquid electrolytes which are volatile and flammable when operated at high temperatures [3]. An external force such as a collision can also lead to chemical leakage. Although the efficiency of electric cars is low, the battery is susceptible to self-discharge, taking into account the fact that the load does not affect it. Accordingly, the main problem today is the oversupply of batteries with the end of their life cycle.

It is commonly known that lithium-ion batteries cannot be simply melted down or buried in the ground. As mentioned earlier, in the production of lithium-ion batteries toxic substances are used so ground waste burial practice cannot be implied, much less can they be remelted. In the EU, only 50% of batteries are recycled, unfortunately, no one has yet learned how to properly dispose lithium-ion batteries.

The only option ensuring avoiding environmental problems is to reduce the production of battery blocks, cells, that is, to reduce the size of the battery in the same forklifts or trucks. The difference between lithium-ion and lead-acid batteries is about the same as between a modern electric train and a steam locomotive. The main drawbacks of these batteries are widely known, which they will never get rid of. Firstly, it is the use of lead-acid batteries as an electrolyte of sulfuric acid solution. Due to the pungent smell, explosive gas evolution during charging, the need to add water appears. As a result, a charging room needs to be equipped and the corresponding money sums for maintaining such batteries are to be allotted.

Secondly, there are risks of a significant reduction in service life due to the negligent attitude of the staff. The service life can be seriously reduced because of the lack of control over the level and density of the electrolyte, storage of a discharged battery, discharges below the permissible depth, violations of the temperature exploitation regime, and failure to comply with full charge-discharge cycles. In other words, a lead-acid battery is a rather capricious thing that requires regular supervision. Thirdly, the charging time is long. It takes at least 7.5-8 hours to fully charge a classic acid battery with liquid electrolyte. Faster charging modes are possible, but this cannot be done daily. Fast charging requires high currents, which greatly shortens the life of lead-acid batteries due to especially.

Lithium-ion batteries are many times more expensive than lead-acid ones and there is no point in spending money on them. Indeed, there is a possibility that the explosive development of lithium-ion technology will lead to the emergence of new players in the market and prices may go down. But even at the current price level, it is worth paying attention to this type of battery [4]. Taking into account the service life, it turns out that in many cases ‘cheap’ lead-acid batteries are more expensive to the consumer than modern lithium-ion batteries.

Take, for example, a situation where a company has lots of warehouse equipment but does not have a specialized room for charging conventional lead-acid batteries. In this case, the company owners have to either invest in the construction of a charger or use gel batteries, which have almost no gas emission during the charging process. Many people follow the second option. Lithium-iron-phosphate batteries for electric forklift trucks and other warehouse lifting equipment are confidently gaining popularity over traditional lead-acid batteries. Lead-acid batteries will never get rid of their main disadvantages due to the nature of this outdated technology. Their only advantage is their low purchase cost [5].

To sum up, if batteries are disposed correctly by transferring them to disposal facilities, a significant reducing of harmful substances ingress into the soil will be achieved. Developing two directions is reasonable: modernization of recycling technologies as well as production technology [6]. Thanks to the cutting-edge technologies zero emission of harmful components can be achieved. If manufacturers focuse on invention of more effective technologies that will have the effect of preserving, the risks of harm to the environment are going to be reduced. The invention of a new type of battery can revolutionize not only the automotive industry but also the field of mobile electronics.

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MODERN METHODS OF SEAWATER DESALINATION

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The shortage of fresh water is a real threat for the entire planet. The world knows such ways of solving the problem as transporting icebergs, transferring runoff from high-water rivers, and desalination, but they are not used in all parts of the planet. There is a sufficient amount of enough sea water, mineralized and waste waters and desalination would make it possible to forget about fresh water shortages forever.

In order to implement all possible programs to restore the planet's water resources, it is necessary to use highly efficient desalination technologies. It is worth noting that these technologies must be cost-effective, so that desalination can produce inexpensive water of the same quality as natural fresh water and of the same usefulness to humans.

Desalination is removal of salts from water, preparing it for technological and domestic use. It means separation of water molecules or withdrawal of salt ions from the liquid. By extracting water molecules from the solution, a considerable amount of energy is wasted, because the aggregate state of the solution changes. Extracting salt from the solution does not change its aggregate state, but the energy expenditure is even greater [1].

48% of this water is produced in North Africa and the Middle East, 18.4% in East Asia, 11.9% in North America, 9.2% in Europe as a whole, including 5.7% in Spain.

The list of available technologies including distillation or thermal processes, membrane methods, freezing (requires high costs either for freezing or for defrosting ice), ion exchange (ion exchange resins have a short life, and also require regeneration with acid and alkali solutions) are of limited use. Let us look at each method in detail.

The desalination process aims to remove excess salt from the water, thereby making it fresh and, accordingly, suitable for cooking and drinking. It is possible to desalinate both sea water and water from artesian wells. If the salt content in the water does not exceed 1000 mg/l, it can be consumed [5].

Membrane methods are increasingly being used for seawater, perhaps almost all new seawater desalination systems are based on membrane technology. Reverse osmosis involves the use of a semi-permeable membrane which allows mainly water molecules to pass through, as well as some small molecular weight ions. The principle of reverse osmosis means that the solvent (water) from a more concentrated medium tends to be released into a less concentrated one. It is important to note that for brackish and salty water, special membrane elements are used, which have a high selectivity for sodium and chlorine ions. Membrane distillation is a thermal membrane method of desalination which works similarly to osmosis, but not through a concentration gradient but through a temperature gradient – water vapor is released through a semi-permeable membrane, while the solution remains outside. Electrodeionization works due to electrolytic water separation and ion-selective processes, it allows obtaining water with low mineral content [2].

Another popular method of desalination is the use of electromagnetic filters. This group of methods is also referred to as reagent-free methods. Both reverse osmosis and nanofiltration can be used here.

The next method of desalination is also quite interesting. The salty water is first subjected to boiling, and then to condensation. During the boiling process, the salts do not evaporate from the surface of the water, which has been scientifically proven – the water itself has to evaporate. The resulting steam is cooled in special chambers where the condensation process takes place. As a result, the steam turns into water, flowing down the walls of the chamber without any extra salt in its composition.

The freezing method is similar to the evaporation method described above. In this method, salty water is frozen. Fresh water has an interesting feature that it freezes before salts. This helps to pick out the frozen ice cubes before the entire surface is frozen. As you can easily guess, the ice cubes consist of fresh water [5].

The work of MIT engineers with an unusual desalination method led by Professor Martin Bazant was published in the journal Environmental Science and Technology. According to Bazant , this is a fundamentally new separation process, unlike any other. It provides membrane-free separation of ions and water molecules. In conventional electrodialysis, the vessel for separation is made of semi-permeable membranes. The filtering membranes allow water to pass through and retain the larger salt particles. These membranes are arranged alternately and divide the total volume into many cavities. A direct electric current is passed through the bath with the solution, which sets the ions of the dissolved salts in motion. The oppositely charged ions move in opposite directions, but because the bath is filled with membranes that impede the movement of the ions, the ions are trapped on the nearest membrane corresponding to their charge, and remain in the cavity between the two membranes. As a result, the concentration of ions increases between one pair of membranes (this water is discharged back into the sea) and decreases between the other, i.e. fresh water is obtained.

In the new process, called shock electrodialysis, water flows through a frit, a porous ceramic material. The mass of the material is confined on both sides by electrodes. A sufficiently strong direct current flowing between the electrodes causes a shock wave to occur in the flow, clearly dividing the flow into two parts – one of which is extremely salty and the other fresh water [3].

Engineers at Aalto University in Espoo, Finland, have developed a very interesting method for desalinating seawater. The innovative system does not need electricity for the desalination process. The idea is as follows. A special platform is made that is installed in the coastal area and moves in the rhythm of the waves. The wave that hits the platform is subjected to a lot of pressure, and through the pipes it enters the filters, which are located on land. It is essentially the same as reverse osmosis system: salty water is pressed through semi-permeable membranes, the salts are separated and discharged back into the sea or ocean, thereby becoming desalinated. The only difference of this installation is that no energy resources are used to create this very pressure. Finnish engineers have calculated that manufacturing and installing one platform will cost $3.5-7 million, depending on its location. If you compare it with existing desalination plants, the benefits are clear. For example, the water pipeline in Päijänne, Finland, which provides water to Hal and its suburbs, spent 200 million euros. Desalination plants are very much in demand in countries with access to the sea or the ocean, but which have scarce freshwater reserves due to its geographical location [4].

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CHOCOLATE AS A PRODUCT FOR FUNCTIONAL NUTRITION

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The problem of food production with functional properties has become increasingly important in recent years. This is due to the deterioration of the general environmental situation, reduced quality of life, the emergence of chronic and widespread diseases.

More and more doctors and nutritionists are of the opinion that nutrition itself can prevent many types of diseases. Actually functional foods are able to perform the function of prevention of a significant number of diseases: diabetes, cardiovascular changes, oncology, atherosclerosis and more.

Chocolate is a class of food, mainly confectionery, made using cocoa beans.

Chocolate mass is prepared from grated cocoa, powdered sugar, cocoa butter, with the addition of flavorings. Many types of chocolate mass include other substances that improve the organoleptic properties, composition and nutritional value of chocolate: roasted and crushed nuts, milk and cream powder, condensed milk, raisins, phospholipids, sesame seeds, glucose, crushed waffles, cognac, liqueur, etc.

The main raw materials for the production of chocolate and chocolate products are cocoa beans. Cocoa beans are the seeds of the tropical cocoa tree Theobroma cacao L. from the Greek theos - god, broma - food, cacao - a distorted Mexican name for the seeds of this plant. The main amount of cocoa beans is produced in West Africa, South and Central America, less - in Asia and Oceania.

According to international standards, cocoa beans must be mature, full, round and healthy; the proportion of impurities in the batch of cocoa beans should not exceed 5%, moisture - no more than

8%. The best cocoa beans should contain at least 51-54% cocoa butter, cocoa beans - no more than 11-13%, and under fermented and damaged beans - 5-10%. The average weight of 100 beans should be in the range from 100 to 160g.

At present, chocolate remains one of the most popular foods not only among children but also among adults. However, the prevalence of diabetes is increasing in the world, which is characterized by numerous side effects, such as vascular diseases, disability, resulting in fatal consequences. With this in mind, many nutritionists advise people with high blood sugar or to prevent diabetes from their diet to prevent diabetes. As a source of carbohydrates in the diet it can be offered specialized foods with a modified carbohydrate profile.

At the same time, a number of modern studies prove positive properties of chocolate. Oxidative stress is caused by many factors (radiation, smoky air, food pollution, smoking, poor nutrition, use of certain drugs that are inseparable from the life of modern man in the metropolis. The body's resistance to oxidative stress can be increased by a constant supply of antioxidants. The search for foods with high antioxidant potential is always conducted by both domestic and foreign scientists.

Among them of great interest are works on the analysis of chocolate and cocoa bean products.

We found that Spanish scientists have studied several types of dark, milk chocolate and cocoa paste. The content of condensed tannins, antiradical, was investigated for these samples of activity by two methods and restorative power. Dark chocolate was more important than milk chocolate, while cocoa paste was the leader in all indicators.

Malaysian scientists presented the results of studies of the total content of phenols, flavonoids, antioxidant activity (FRAP method), antiradical action (ABTS method), the content of catechin, epicatechin, theobromine in different fractions obtained by column chromatography from cocoa powder. Fractions have different levels of performance, and the original extract has average values relative to different fractions.

Bosnian scientists studied cocoa powder (100% cocoa), chocolate powder (55% cocoa), chocolate (43% cocoa), milk chocolate (29% cocoa), chocolate filling (35% cocoa) for the presence of total phenols and antioxidant activity to reduce molybdate ions. Cocoa powder has the highest content of phenols, but chocolate (43% cocoa) has a high antioxidant activity.

Indonesian scientists have found that the level of total phenols and anti-radical activity by the DPPH method is influenced not only by the recipe of chocolate, but also the technological conditions of processing cocoa beans (alkali concentration 1-15 g / kg and temperature 40-80°C).

In recent years, there has been a so-called group of "super fruits", which includes a number of fruits with high levels of antioxidant activity. American scientists based on their data on the study of antioxidant activity by ORAC method for powders of popular "super fruits" - acai, blueberry, cranberry, pomegranate - and cocoa conclude about the great potential of cocoa powder, because it has higher values of antioxidant activity compared to "super fruits".

Of interest to scientists are not only the cocoa beans themselves as a raw material for chocolate production, but also waste from their processing. The total content of phenols, antioxidant activity, technological properties (content of proteins, fats, and carbohydrates), fat and water absorption was determined in the husk, cocoa beans. Cocoa bean husks have the most significant indicators of antioxidant activity.

In recent years, the press began to publish about the harmful effects of chocolate on human health. Chocolate consumption is associated with diseases such as diabetes, dental caries, childhood hyperactivity, obesity, acne, migraines, allergies, etc.

Animal and human studies have convincingly demonstrated the positive effects of chocolate components on human health. It is the flavonols of chocolate that help prevent diseases of the nervous system, and flavonoids have anti-inflammatory, neuroprotective, anticancer effects. Chocolate has been proposed as an atherosclerotic agent based on studies in humans, mice and human plasma.

Currently, the number of chocolate items is actively increasing. In addition to the traditional black, milk, classic chocolate with various additives of spices, aromatic raw materials, etc. Comparative studies of classic chocolate, as well as chocolate with red pepper and rosemary in terms of total phenols, the ability to capture free radicals showed an increase in total the content of phenols in the samples of the studied chocolate with the addition of red pepper and rosemary. The anti-radical activity of these types of chocolate is also slightly higher than the classic.

Thus, there is an obvious interest in questions about the beneficial properties of chocolate as experts in dietetics, nutrition physiology, food chemistry, and ordinary buyers.

A comparative analysis of the results obtained from the study of chemical composition and antioxidant activity for chocolate with data for other plant systems (fruits, honey, bakery products, and juices) allows us to state that chocolate has a leading position and can be recommended as a source of flavonoids.

However, the high price of some types of chocolate, beautiful packaging do not give them advantages as products with antioxidant properties over more "modest" samples of chocolate. Undoubtedly, not only in terms of taste diversity, but also in terms of functionality are the new names of chocolate with the addition of plant extracts.

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POSSIBLE REASON INCREASE OF JELLYFISH POPULATION IN THE SEA OF AZOV

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The Sea of Azov is the shallowest sea in the world, its depth is only 14 meters, its volume compared to other seas is not so great and perhaps that is why this sea is very well researched. For example, the deepest point of the Black Sea reaches 2212 meters. The Sea of Azov washes the shores of the two countries and it is the center of the fishing industry of Ukraine, and the popular place for summer vacation. But recent large changes in the number of jellyfish can have negative consequences for the flora and fauna of the water area and for the economy of our country. In the summer of 2021, the number of jellyfish in the sea reached a critical point. The catastrophic increase in the population of two species of jellyfish Rhizostoma pulmo and Aurelia aurita not only disturbed the ecological balance of the Sea of Azov and the recreational opportunities of the resorts, but also became dangerous to human health.

Starting in the second half of June, going into the seaside was problematic. People who dared to swim in the sea noted that they felt burning and pain at the place of the jellyfish's touch, and a red rash appeared on their bodies. For children, these symptoms were several times stronger. Such consequences from the encounter with jellyfish are due to the fact that these animals have on their tentacles streak cells, which they paralyze their victims –small representatives of zooplankton, for further nutrition [1]. For humans, the venom of jellyfish is not lethal, but for people with allergies can have serious consequences. It should be noted that in August, in order to feel the effect of the poison of jellyfish on yourself, it was no longer necessary to come into direct contact with jellyfish, the amount of mucus concentration in the water was so high that even water burned. The hotels located by the coast have suffered heavy economic losses this season, as most customers have chosen to fly to other countries due to the jellyfish invasion.

According to environmental scientists, the increase in the number of jellyfish population in the Sea of Azov may be because of increasing salinity of the water [2]. This factor is a key hydrochemical and environmental factor for any water creatures. More over, it should be noted that jellyfish of the species Rhizostoma pulmo and Aurelia aurita in the Sea of Azov have been found since 1974. This year, the salinity level of the water has reached its maximum for the last 50 years, namely 14 ‰. Now, due to the fragmentation of high-water rivers, such as the Don and Kuban, which are the largest sources of fresh water for the sea, the salinity of the water has again reached 14 ‰. In our region, the source of fresh water for the Sea of Azov is the Molochnaya River, but over the past few years we can observe that the water level in the river is critically low. The small amount of fresh water is due to the fact that there is a drought and little rain in these regions. At the same time, there is a huge influx of salt water from the Black Sea through the Kerch Strait, which increases the salinity of the Sea of Azov. It is from the Black Sea that jellyfish of such species as Rhizostoma pulmo and Aurelia aurita enter the Sea of Azov. The dynamics of water salinity in the Sea of Azov since the first appearance of scyphoid jellyfish in 1974 and the beginning of modern population growth in 2018 is shown in Table 1 [3].

Table 1

Dynamics of salinity in the Azov Sea

Years	Salinity, ‰
1974	13,13
1975	13,37
1976	14,04
1979	12,46
1980	12,34
1981-1987	12,38–11,25
2018	14,25

Based on modern studies of long-term changes in the salinity of the Sea of Azov, we can say that the dynamics clearly shows 3 periods: desalination –salinization –desalination of water, and we are probably at the beginning of the next period of salinization of the Sea of Azov. If the tendency to increase salinity continues, jellyfish are likely to continue to live and breed in our waters. An increase in the number of jellyfish may have some effect on zooplankton numbers, but this may not have serious consequences and the planktonic invertebrate community will not be affected.

In conclusion, it is worth to noting that since the increase in the sea salinity is directly dependent on rising air temperatures, probably the global trend of rising temperatures makes itself felt, precisely on the example of the Sea of Azov. Perhaps such an urgent problem of the surrounding world related to jellyfish, which this summer directly affected all of us, will force modern society to decide to pay attention to the problem that the world community of ecologists has been talking about for decades – Global Warming.

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IMPROVING DANDELION JAM PRODUCTION TECHNOLOGY

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Nutrition is one of the major problems of our time. Today, a large percentage of the ready-to-eat market represents a variety of tasty but unhealthy foods. The preparation of healthy and tasty products is therefore the focus of the food industry.

The food industry is one of the most competitive sectors of Ukraine's economy. The developed food production base and the ever-present income of the population contribute to comparatively fast turnover of assets and return on investments.

Production of jams with natural components, which satisfies the market of healthy food products and people with diabetes is a promising direction for the development of competitiveness of the product, and further development, through the addition of various food additives will satisfy the different flavors of consumers.

Plants of the genus *Taraxacum* have long been considered a useful product that is used as food raw and cooked. These plants also have medicinal properties, so they are used in folk medicine. They have choleretic, hepatoprotective, anti-inflammatory, antioxidant, antitumor and diuretic properties.

Plant compounds have many essential trace elements: phosphorus, boron, selenium, chromium, copper, cobalt, manganese and others. Dandelion is also rich in ascorbic acid; its concentration can vary from 300 to 650 ml. The high content of carotenoids, B vitamins, inulin, fatty acids and lutein makes dandelion flowers a very valuable raw material for the food industry. The plant is particularly useful for people who suffer from diabetes – it reduces the amount of sugar in the blood and regulates insulin secretion, promotes the elimination of bile, cleanses and performs a blood-soothing and calming effect.

The aim of our study was to analyze the possibility of improving the taste of dandelion jam and fructose-glucose syrup by adding fresh lemon instead of flavoring. A technological scheme for the preparation of jam was proposed.

Jam is a food product that is made by boiling a variety of fruits, berries and some vegetables with sugar. Correspondingly jam is a nutritious product because it contains a lot of sugar, organic acids, mineral salts and vitamins. We have used the addition of fructose-glucose syrup to optimize products for the diabetic market.

Fructose-glucose syrup is a mixture of glucose and fructose. In fact the syrup is also known as isoglucose, high-glucose corn syrup. The content is approximately 51 % glucose, 42 % fructose and 7 % oligosaccharides (impurities). It is obtained by enzymatic liquefaction and saccharification of the starch to a high glucose content and conversion of part of the glucose into fructose. Based on the composition of the syrup, it is virtually identical to sucrose in terms of its physico-chemical and organoleptic properties and has no synthetic substances or food additives in its composition.

Lemon is a rather important medicinal plant in the *Rutaceae* family. It is characterized by the presence of alkaloids, which have antitumor activity and antibacterial potential, as well as flavonoids, which have such biological properties as antibacterial, antifungal, antidiabetic, antitumor and antiviral action.

Lemons are composed mainly of water, but they are rich in good nutrients. The fruit is high in ascorbic acid, as well as vitamins A, E, D, P and B vitamins. The fruit is high in ascorbic acid, as well as vitamins A, E, D, P and B vitamins. Lemon also contains lime, copper, potassium, calcium, sodium, phosphorus, zinc and boron.

Among the benefits of lemons can include the fact that they meet half the dobovoyu rate of vitamin C. They also boost immunity, accelerate wound healing, accelerate the aging process, detoxify and reduce blood pressure. Lemon is also tonic, relieves fatigue and drowsiness and improves intestinal peristalsis.

Lemon is a rather important medicinal plant in the *Rutaceae* family. It is characterized by the presence of alkaloids, which have antitumor activity and antibacterial potential, as well as flavonoids, which have such biological properties as antibacterial, antifungal, antidiabetic, antitumor and antiviral action. The dandelion is brewed according to a flow chart (figure 1).

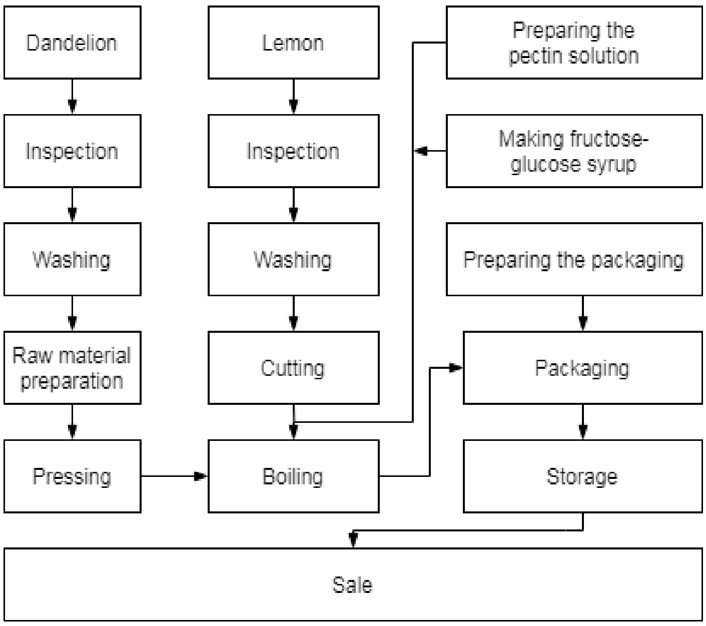

Figure 1 - Technological scheme for making dandelion jam

This scheme is based on the task of creating a method of producing dandelion jam, in which a decoction of flowers is combined with fructose-glucose syrup, pectin solution and fresh lemon, followed by boiling. The use of these raw materials increases the biological value of the final product. The addition of fructose and pectin gives the jam its functional properties.

The aim of our future research will be to improve the recipe for jam by reducing the amount of glucose in different ways, preserving the natural taste and composition of the product, as well as to expand the range by adding natural flavoring and aroma ingredients.

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INNOVATIVE BREWERY TECHNOLOGY WITH CARAGENAN ADDITION

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Ukraine is culturally and botanically very diverse: with deserts, forests, steppes, high zonation - a lot of climatic conditions are due to the large territory. There is something around us that we can use almost every season. Therefore, we can and should use all this botanical diversity that is around us - in the products of our cuisine and in brewing.

Beer in the world saved whole countries from epidemics, served as a nutrient for many people, a method to relax after a hard day. As well as cheese, wine and bread, beer - this was what the technology was honed.

As we know in the manufacture of beer there are many factors that can affect the quality of the product. One of these factors is to properly clean the wort and do so without much resource consumption. Clarification of wort, technological operation of primary winemaking, aimed at separating the dispersed phase from the liquid. It is carried out in order to remove suspended particles, wild microflora, colloids, oxidizing enzymes from the wort.

Beer is low-alcohol carbon dioxide-saturated tonic frothy drink is obtained by fermenting hopped wort with brewer's yeast.

The beer production technology consists of

- malt mashing
- boil the wort
- fermentation at a wort temperature of 18 to 22 °C
- maturation of beer [4].

Most breweries use a hydrocyclone. Hydrocyclone is a wort is pumped at a relatively high speed into the hydrocyclone (whirlpool). Due to the centrifugal force, heavy particles settle to the bottom and gather along the radius of the hydrocyclone in a cone, where they remain lying. Moreover when using a hydrocyclone, a lot of energy is lost and as can be seen it is not profitable. But we suggest using not only one hydrocyclone but also carrageenan [3, 5].

Carrageenan is a polysaccharide derived from some species of red algae. The structural units of these biopolymers are the monosaccharides D-galactose and 3,6-anhydrogalactose, which are linked by α-1,3 and β-1,4-glycosidic bonds. Carrageenans contain from about 15% to 40% of sulfuric acid residues and have an average molecular weight of more than 100 kJ. There are several types of carrageenan: λ, κ, ι, ε, μ, which contain from 22 to 35% of sulfuric acid residues. Only three types of carrageenan are actively used in the food industry: λ, κ, ι. As a brightening agent is used kappa carrageenan, high molecular weight with a strong negative charge. Carrageenan is added to the hot wort 15-20 minutes before the end of cooking. Proteins contained in malt have a positive charge. Thus, positively charged proteins interact with negatively charged carrageenan molecules to form fast-growing solid particles. These particles precipitate. Protein binds to carrageenan so tightly that it is not destroyed and filtered completely [1, 2].

Thus, it can be concluded that the use of carrageenan is an inexpensive and highly effective way to lighten beer. When we need to lighten the wort, we can combine hydrocyclone and carane. When we combine we can reduce energy consumption. When we filter we will need less energy. But carane is not recommended for dark beer.

In general, beer is a very important product around the world, both economically and nutritionally.

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WASTE SORTING IN UKRAINE

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The problem of insufficient waste recycling is a global issue. Today, the entire world community is concerned about environmental pollution. According to some reports, every inhabitant of the planet leaves 1 ton of garbage per year.

The purpose of the article is to investigate the national pollution problem in Ukraine and suggest the ways of solving it using the simple waste sorting technique.

In Ukraine, the waste separation method is partially used, but not all regions are yet engaged in waste processing program. Many people do not understand why they need to sacrifice their time and money sorting waste if they are already paying enough for its disposal.

We want to consider the pros and cons of this problem.

Pros of garbage sorting:

- Separating waste can reduce environmental damage
- Re-processing is profitable
- Less waste - less junkyards

Cons of garbage sorting:

- High upfront capital costs
- Recycling sites are always unhygienic, unsafe and unsightly
- Products from recycled waste may not be durable
- More energy consumption and pollution

Garbage is always harmful to the environment. If it is not being recycled, it pollutes water and soil, it can be dangerous to birds and animals, and also destroys local ecosystems. Environmental damage can be significantly reduced if the hazardous and non-hazardous waste is not mixed together.

Therefore, separate collection of waste and its subsequent correct disposal is the most responsible way of handling garbage.

In our article we have analised the garbage sorting problems.We came to the conclusion that there are some problems with people's atitude toward the garbage recycling. Our country has a lot of waste processing plants and they are quite active. But, since Ukrainians practically refuse to sort garbage, these plants do not have enough recyclable materials for processing and they are forced to buy garbage abroad. As a result they buy plastic in Poland, paper in the Baltics and Russia - which is very irrational considering how much of our waste is literally rotting in landfills.

Taking into consideration all of the above, we can conclude that Ukraininan garbage problem is very harmful for its citizens and in order to solve this problem, first of all, it is necessary to convince our citizens that garbage sorting has numerous advantages. Every Ukrainian should clearly understand its principles. At the same time, it is necessary not only to monitor compliance with the rules for citizen-sorting, but also to encourage them to do it on their own.

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MELON JAM. RULES OF TRANSPORTATION, ACCEPTANCE, STORAGE OF RAW MATERIALS AND AUXILIARY MATERIALS. WAYS OF WASTE UTILIZATION

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Jam - is a dessert made by boiling various fruits (berries, fruits and even some vegetables) with sugar. The benefits of jam are due to the plant vitamin component, and sugar acts as a preservative.

The composition of melon is a unique combination of fiber, vitamins, minerals and biologically active substances, many of which are natural antioxidants.

Jam is a high-calorie product, so do not eat it in large quantities. Because most of the useful elements in the preparation of jam - are destroyed.

Fruit blanching leads to denaturation of protoplasm proteins, which increases its permeability to sugar syrup. The fruits are treated with hot steam or hot water, 0.1% solution of citric or tartaric acid: Melon is blanched (5 - 10) min at (90 - 100)°C.

Syrup preparation. Purpose: to improve the taste and consumer properties of the product. Dissolve a given amount of sugar in boiling water, filter through a cloth.

Filling the fruit with syrup. Purpose: to accelerate the diffusion of sugar into the tissues, to facilitate cooking. The concentration of syrup when pouring 70-75%. The temperature of the syrup when pouring (70 - 80)°C.

The main purpose of fruit cooking is uniform saturation of fruit syrup without violating their integrity and shape. Prepared fruits are loaded into a cooking pot, filled with sugar syrup. When cooking fruits and berries, they are two mutually opposite processes: moisture due to osmotic pressure goes into the syrup, and the syrup diffuses into the fruit due to differences in sugar concentration. Cooking fruit in syrup should be alternated - heating, then cooling, and so many times. The number of cooking melon jam is – 3.

The boiling point of the finished jam 106…107°C. Duration of endurance at cooking in double-walled coppers (5 - 6) hours, in vacuum devices - 10 min.

The main purpose of clogging the jam is to prevent the ingress of outside air and microorganisms. It is carried out by the varnished metal covers. The time from sealing to sterilization / pasteurization should not exceed 30 minutes

The purpose of sterilization and pasteurization is the destruction of microorganisms that cause spoilage. Ensuring long-term storage of the product. Carried out at 100°C at an autoclave pressure of 118 kPa for 10 - 20 minutes depending on the capacity of the container.

For the fact that the jam is divided into three varieties - extra, higher and first. Sorting of jam is set by organoleptic parameters. Extra jams are made only from fresh raw materials.

Table 1- Organoleptic properties of jam

Name	Characteristic
Appearance	The fruits should be the same size, not wrinkled, evenly distributed in the liquid syrup, without signs of saccharification.
Taste	sweet with melon flavor
Smell	the smell of melons
Consistence	thick

Packaging of fresh vegetables and fruits prevents them from mechanical damage, provides better storage during transportation. Packaging containers are box pallets, wooden, cardboard and polymer boxes, tray boxes, cloth, mesh and polymer bags, baskets, etc.

Melons are placed in box pallets with a net weight of up to 350 kg and in wooden boxes with a net weight of up to 35 kg. Containers must be clean, dry, durable, free of odors. Each type of packaging is marked, which indicates the trademark or name of the supplier, the name of the vegetable (fruit), its brand, gross weight, net, regulatory document, etc.

For transportation of fruits and vegetables use traditional and new types of automobile refrigerated transport - cars with an isothermal body, cars-ice and cars-refrigerators at which temperature in a body makes 4-18°C (at an outside air temperature of 30-40°C).

Products transported in standard packaging must meet the requirements of relevant standards or specifications. In the car body products are stacked in dense rows, without gaps, evenly in length and width. The distance between the ceiling and the top row should be not less than 30-85 cm. Melons are stacked in rows, but not more than 5 rows. Each row is laid with a layer of straw or other packaging material.

When transporting fruit in open boxes between the rows of boxes lay a wooden board, the size of which corresponds to the size of the body, or several large boards. Boxes are stacked in 3-4 rows so that the top row protrudes above the sides of the car body no more than half of its height, tied with rope and covered with tarpaulin.

Storage technology is to keep the fruit in viable condition for the longest time. To do this, there are optimal storage conditions, which depend primarily on temperature, relative humidity and air circulation.

For this purpose, vegetables and fruits are stored in the simplest (seasonal) or stationary storage. Seasonal storages are kagats, trenches with natural and active ventilation. Kagats do not require large costs for equipment, they can be placed in places of cultivation and in compliance with all requirements to obtain an economic effect. Stationary storages have advantages over seasonal storages, because they can provide better safety and high quality products, reduce losses, but their maintenance is much more expensive than seasonal storages.

The most perfect method of ventilation is active ventilation, in which the outside air supplied by the fans passes through the thickness of vegetables and fruits.

Pumpkin vegetables are stored in containers. Watermelons, pumpkins and melons can be stored on shelves in a row on a soft bed of straw, leaves, pine needles, peat. Melons are not allowed to be stored next to vegetables or apples.

Melons are stored for 2-7 months. at a temperature of 0-1ºC, relative humidity, respectively, 85-90% and 70-75%.

Sugar is transported by all means of transport, but sugar packaged in plastic bags and packed in corrugated cardboard boxes can only be transported by road. Covered wagons, sugar trucks and containers must be dry, without cracks, with a top that does not leak.It is forbidden to send sugar in contaminated wagons, containers with traces of cargo that can contaminate sugar, have an odor, as well as poisonous. At the time of storage of granulated sugar, the relative humidity should not be higher than 70% at the level of the surface of the bottom row of packaged sugar, and refined sugar - 75%.

Refined sugar and packaged granulated sugar must be stored at a temperature not higher than 40°C.Sugar (over a year) can be stored in warehouses that are heated and not heated. The temperature of sugar should not exceed 25°C, and the minimum air temperature in heated warehouses should be 12°C.

Shelf life of packaged granulated sugar in heating warehouses - up to 8 years, in non-heating - from 1.5 to 4 years, taking into account storage conditions and type of packaging; refined sugar in heating warehouses - up to 8, in non-heating - up to 5 years. During storage, sugar can adsorb foreign odors, causing it to lose fluidity and form lumps.

According to the degree of intensity of the negative impact of food industry enterprises on the environment, the first place is occupied by water resources. In terms of water consumption per unit of output, the food industry is one of the first places among the sectors of the economy. The high level of consumption causes a large amount of wastewater in enterprises, and they have a high degree of pollution and pose a danger to the environment.

The bulk of waste and by-products of the food industry - about 70% - is used directly for feed purposes in animal husbandry, about 20% is sent to the production of food and technical products, the rest is used as fertilizer and fuel. Food waste is very bulky, contains a lot of moisture, is not very transportable and cannot be stored for a long time.

Many products are made from waste. These are feed and baker's yeast, alcohol, laundry soap, whey. In addition, thousands of tons of pectin and fruit powder, vegetable oil, citric and glutamic acid are obtained from waste. The main wastes of the fruit and vegetable industry in the production of canned food are fruit cleaning wastes.

Possibilities of using melon waste are reduced to obtaining feed for birds and cattle, separating seeds, drying, and obtaining oil. Products are stored in well-ventilated warehouses on racks at a relative humidity of 75%.

Storage temperature of sterilized jam packed in glass and metal jars - from O * C to 25 * C and not sterilized jam packed in barrels or plywood drums "from O * C to 12 * C.

Therefore, the shelf life of the jam from the date of manufacture is sterilized 24 months; not sterilized - 12 months. Transportation must be carried out by all modes of transport in accordance with the rules of transport organizations for the carriage of goods operating on the specified mode of transport. The integrity of the jam must not be damaged during transportation.

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THE IMPORTANCE AND PRINCIPLES OF OPERATING OF SUSTAIABLE GEOSPATIAL SYSTEMS IN UKRAINE TODAY

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Land reform in Ukraine is not limited to lifting the moratorium on the sale of agricultural land and the introduction of a land market. It also adopted a number of less popular but no less important pieces of legislation. One of them is the Law of Ukraine “On National Geospatial Data Infrastructure”, adopted by the Verkhovna Rada of Ukraine on April 13, 2020.

What is Geospatial?

The term geospatial is a term that has only recently been gaining in popularity and is used to define the collective data and associated technology that has a geographic or locational component. A search using Google’s Ngram Viewer (Fig.1.) shows that the term only entered literature during the late 1980s and has rapidly been rising in frequency ever since then.

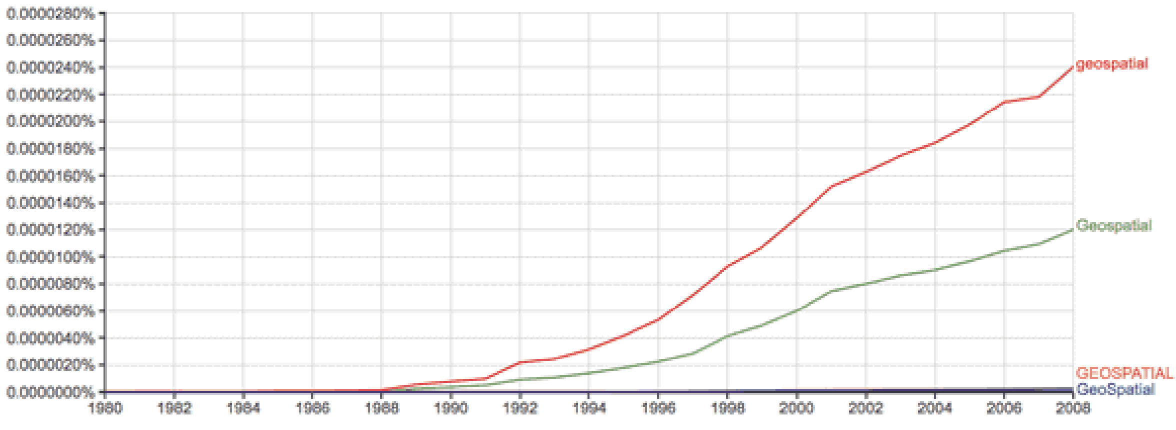

Fig.1. The term “Geospatial” in literature

Geospatial technology refers to all of the technology used to acquire, manipulate, and store geographic information. GIS is one form of geospatial technology. GPS, remote sensing, and geofencing are other examples of geospatial technologies.

Restrictions on COVID-19 from 2020 have affected the mode of operation and consumer demand. Global construction, changes in land cadastres, remote management of territories and objects have influenced the emergence of a large number of new modern GIS programs in different countries. Compared to 2019, the demand for geospatial information and GIS technology has more than tripled.

So it makes sense to talk about the basic principles of a sustainable geospatial system:

- **Focus on user needs**

People of the 21st century are used to getting everything easy and fast. That is, the system must be easy to use and quickly respond to user requests.

Spatial planning considers the world in layers. New geospatial technologies, artificial intelligence, big data processing, and cloud computing facilitate complex analysis to support solutions. If you compare the availability of such information with what it was 5 years ago, modern technology allows you to get the necessary data in two clicks.

- **Ongoing involvement at all levels**

Blockchain technologies and tools introduced in cadastre and land management, as well as for property valuation and management, can add confidence and clarity to investment decisions, making them simpler and faster. By linking existing ownership, valuation or other property data to digital systems or artificial intelligence, the blockchain provides a transparent digital relationship.

- **Ensuring the integrity of information**

Each sensor and device connected to the Internet has location information that specifies the context of the transmitted information. The use of GNSS helps to collect all the different sensor data in a common frame of reference for easy data combination. Moreover, the new devices allow for cadastral and engineering surveys to collect the data about the features of the objects that are very close to the surveyed object or from afar, including air or underground and underwater environments.

- **Promoting data openness**

Smart cities provide solutions to urbanization problems through better management of complex environments, creating opportunities for smart technologies and effective governance models. Smart cities together with geoportals create the most comfortable and open environment for its inhabitants. Today, large amounts of data can be processed in minutes, saving hundreds of hours for efficient management.

Potentially, it is the geospatial data infrastructure that can comprehensively meet the needs of citizens, the private sector and public administrators in all types of geographic information.

The basis of the system is the intersectoral integration of completely different, at first glance, real-time data: land, urban planning, water, forest cadastres, deposits and manifestations of minerals, natural medical resources, territories and objects of nature reserves and other sources and , most importantly - ensuring wide access to them in information networks at the national, regional and local levels.

The geospatial profession needs to continually evolve to respond to global challenges, social impacts and the rapid evolution of technology. It is also essential that the next generation of professionals are educated and competent and able to contribute responsibly to the global challenges.

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IMPROVEMENT OF FRUCTOSE ICE CREAM TECHNOLOGY

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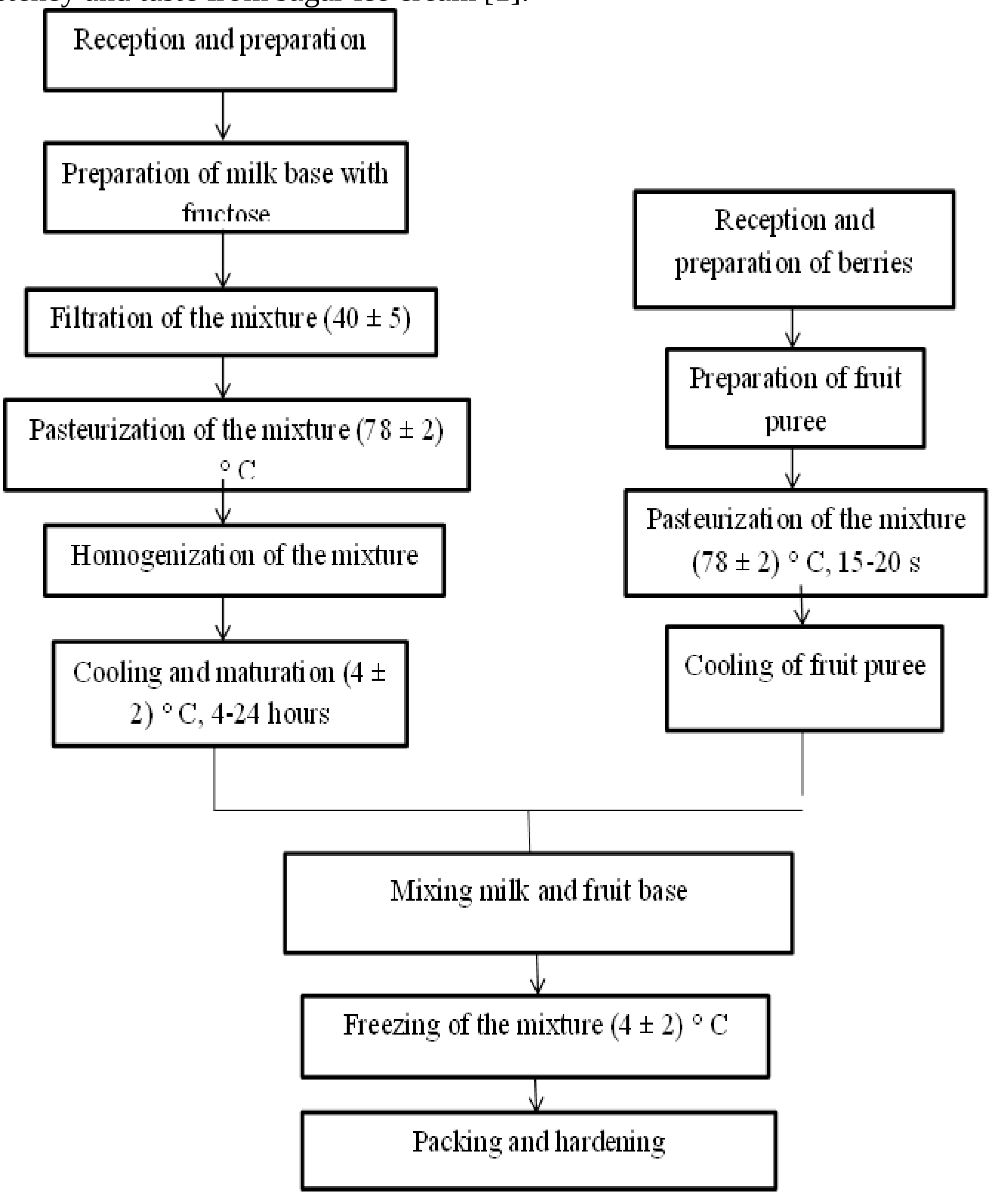
Today, many people who care about their health switch from sugar to fructose, in order to reduce the caloric content of foods and replace in their diet "easily digestible" sugar. So-called "diet products" or "sweets for diabetics" are suitable for this purpose.

The aim of our work was to obtain ice cream sherbet with sugar substitutes with a balanced composition of raw materials. The technology of ice cream-sherbet "Barberry" with a natural sugar substitute (fructose) and biologically complete plant ingredients (pear and barberry puree) has been developed.

The use of the sugar substitute fructose in ice cream has a number of positive properties. It is a promising substitute for sugar, as it reduces the freezing point and melting of ice cream. As we know fructose is a sugar found in fruits and honey. It is also called "slow sugar", fructose is absorbed by cells without requiring the hormone insulin and without causing - like sugar - hormonal surges, which is very important for the proper functioning of the body. Fructose ice cream does not differ in consistency and taste from sugar ice cream [1].



Moreover, fructose is a natural substitute for sugar, which is found in all fruits, berries, flower nectar, honey, 1.7 times sweeter than sucrose and at the same time, contains a third less calories. But, among other things, fructose has another advantage - it accelerates the breakdown of alcohol in the blood and its excretion. Fructose by 20-30% reduces the risk of caries and inflammation in the mouth, does not cause allergies. In fact it is sweeter than sugar, so it needs less to sweeten foods. In addition fructose will not raise blood sugar (will not cause a jump in insulin). Such products can be consumed by people who limit their dietary sugar intake: those who are overweight, obese [2].

The technological process of production of ice cream-sherbet "Barberry" is carried out according to the technological scheme (Fig.1). The technology of the developed ice cream provides:

- *Cooling of fruit puree.* After pasteurization, the mixture is cooled to temperature 0-6ºC.
- *Mixing milk and fruit base.* The milk and fruit base are mixed for temperatures 4±2°C.
- *Freezing of the mixture.* Freezers are used for freezing mixtures continuous operation of domestic and imported production. In the freezer the mixture should to act with a temperature of 2-6ºC. The temperature of the ice cream at the outlet of the freezer should be not higher than -3.5ºC.
- *Packing and hardening of ice cream.* Packed ice cream is hardened in the air flow at a temperature of -25 ...- 35ºC in special freezers that are part of the production lines. The temperature of packaged ice cream after hardening should not exceed -10ºC. Before placing the ice cream in the storage chamber, the ice cream is re-hardened in the hardening chambers for 24-36 hours. After re-hardening, the ice cream is placed in a storage chamber.

It can be concluded that the use of fructose and biologically complete ingredients provides a new type of ice cream with a pleasant taste, delicate texture, diabetic properties and quality indicators. Thus, the complete replacement of sugar with fructose in the composition of ice cream-sherbet will reduce the caloric content of the product, and the introduction of biologically complete ingredients will provide products with attractive consumer characteristics, with improved vitamin composition. New data can be useful to scientists and food industry workers; they have scientific and practical significance.

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SOIL AMENNDMENTS

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A soil amendment is any material added to a soil to improve its physical properties, such as water retention, permeability, water infiltration, drainage, aeration and structure. The goal is to provide a better environment for roots. There are two broad categories of soil amendments: organic and inorganic. *Organic amendments:* It is the composition of organic moieties derived from biomass and/or living beings. It generally includes compost, wood chips, biochar, animal manure, straw, husk, geotextile, and sewage manure. These substances are extremely rich in organic matter and macro- and microelements that increase the fertility of soils by ameliorating microclimatic conditions and may also provide substrates for microbial growth. Inorganic amendments are either mined or man-made. These amendments are generally contained minerals associated with soil fertility. They include vermiculite, perlite, tire chunks, pea gravel, sand, gypsum, fly ash and SAPs.

Fresh manure can harm plants due to elevated ammonia levels. To avoid this problem, use only aged or composted manure. It can improve the soil structure (aggregation) so that the soil holds more nutrients and water, and therefore becomes more fertile. Animal manure also encourages soil microbial activity which promotes the soil's trace mineral supply, improving plant nutrition. It also contains some nitrogen and other nutrients that assist the growth of plants.

Compost refers to decomposed organic matter. It is not regulated, so there is no standard about the state of decomposition. Compost made solely from plant-based products (such as wood chips and yard wastes) are low in salts. These are preferred over manure based composts which are often higher in salts. However, they are generally more expensive. Compost enriches soil, helping retain moisture and suppress plant diseases and pests, reduces the need for chemical fertilizers and reduces methane emissions from landfills.

Gypsum is commonly used to decrease soil pH by bonding high sodium salts and lime or limestone to decrease the soil pH.

Superabsorbent polymers (SAPs) have the capability of absorbing water and retaining it for a long time. They are made up of lightly cross-linked hydrophilic polymers that can absorb a large amount of water and stored it in a readily available form to plants. They also act as food for microbes and soil conditioner, as well as reducing soil erosion and agricultural runoff and they increase fertilizer use efficiency.

Organic amendments are more sustainable and environmentally friendly, but have low nutrient levels. Inorganic amendments are easy to use, work immediately, but are expensive and the amount of use is limited.

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WHAT IS AGROENGINEERING?

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The invention of tools by people dates back to the distant past. The first tools that man created were a plow and a hoe, with the help of which the land was cultivated before planting seeds and plants. The modern economy and consumer demands require the improvement of technologies and equipment, in connection with which the profession of an agroengineering appeared.

Agroengineering is a branch of agriculture that deals with the design and improvement of production processes in the agro-industrial sector. The objects of agricultural engineering are:

- machinery used to create and transport agricultural products;
- new technologies and means of the agro-industrial complex, for example: remote control combines, which were developed by agricultural engineers to simplify agricultural work;
- methods of maintenance and diagnostics of agricultural machinery and equipment;

- equipment with the help of which there is electricity, water and gas supply to all agricultural processes;
- complexes for utilization of agricultural waste.

The main disciplines of professional orientation:

- Tractors and cars;
- Agronomy;
- Agricultural machinery and implements for crop production;
- Computer modeling and basics of design in agricultural engineering;
- Automated operation of agricultural machinery;
- Machinery and equipment for animal husbandry;
- Operation and technical service of agricultural machinery;
- Repair of agricultural machinery;
- Organization and technology of mechanized works;
- Technologies and equipment for processing agricultural products;
- Fundamentals of the theory of agricultural machinery;[3]

What do agricultural engineering specialists do?

Many specialists in the field of agricultural engineering are involved in the design and testing of agricultural machinery, equipment and spare parts. Specialists in this field can also design food storage facilities in food processing plants. Someone, for example, can design housing and living conditions for livestock.

Experts interested in environmental issues advise on water quality and water pollution control. They can also plan and supervise farmland reclamation projects. Others may be involved in projects to convert agricultural waste to energy.

The agricultural specialist's work focuses on the study of food and agriculture and how to help modern agricultural methods and products meet global and national food needs.

Agroengineering covers a fairly large range of processes, foundations and objects aimed at the development of agriculture, as well as technical systems, equipment and technologies in agricultural engineering. During their studies, students master automation, hydraulics, descriptive geometry, heat engineering, engineering physics, methods of making sketches and drawings, as well as other disciplines [2].

All this is necessary for further work in the field of creating new technological installations and equipment in the agro-industrial sector.

Specialists trained in the mechanical and technological profile must have the skills:

- high-quality service of the used machinery and equipment;
- installation and maintenance of devices in working order, including those directly working in contact with biological objects. Experts are engaged in the implementation of technologies that will automate various production processes in agriculture.

If we talk about our university, then a graduate majoring in "Agroengineering" in the future, can work on a very wide range of activities, such as: modeling and design of mechanized technological processes of agricultural production, design machines based on graphic tools of computer-aided design, to complete the optimal agricultural units, to perform installation, adjustment, diagnostics, testing and maintenance of agricultural machinery, as well as to organize the work and administrative management of production units of agro-industrial production.

In the distant past, agricultural engineering, although it had a different name, was an integral part of agriculture. Now, this direction of engineering is one of the leading specialties of the future. Scientific and technological progress in any field is associated with formation of new knowledge, technological development of sciences discoveries and inventions, implementation advanced technology - all this is placed on the shoulders of agricultural engineers [1].

Undoubtedly, the progress of agriculture is closely related to agricultural engineering and, to a greater extent, develops thanks to these technologies and, every day, only strengthens its position.

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UTILIZATION OF WASTE FROM CANNING PRODUCTION OF COMPOTE, MODES OF REFRIGERATION PROCESSING AND STORAGE OF THE READY COMPOTE "ASSORTED №2"

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Fruit seeds have great value for fruit nurseries, where rootstocks are grown. The juice is peeled on the pact press at slightly lower than normal pressure and juice output to prevent seed deformation. Seeds from pomace washed with water.

The resulting seeds are scattered with a thin layer (3-5 cm) on sieves made of metal mesh or on burlap and dried in good weather in the air, in another - in special rooms with warm air or in dryers at temperatures not higher than 35°C. Dried seeds are cleaned on the cleaning machines "Super-Petkus." The seeds are calibrated, packed into bags and sent for storage. Seed humidity should not be greater than 10 - 11%.

Pomace apples immediately after separation of the juice is crushed on a hammer to the size of pieces no more than 5 mm and dried in dryers at a temperature of heating of raw materials not higher than 90-100 °C (at a higher temperature, pectin is destroyed). Often pomace is dried on drum dryers first at the temperature of the drying agent 300 - 350°C, and at the end of drying 85 - 95°C. After drying, the pomace is cooled, sieved through a sieve with holes with a diameter of 10 mm, inspected and packed in kraft bags (paper) with a capacity of up to 30 kg [1].

The extract from the pomace is separated first by gravity, then by pressing on a pact press. Then they filtered using kiselgur. The filtered extract is concentrated in two-hull continuous vacuum evaporators.

From the concentrate, pectin is precipitated with ethyl alcohol, which has a volumetric fraction of ethanol 90 - 95%, on the pact presses, raw pectin (coagulation) is separated from the liquid, which is dried in a drum vacuum dryer. Used alcohol is disrupted and reused. From - 2 tons of dried apple pomace receive 100 kg of dry pectin, the allocation of which requires 75 dm^3 of alcohol (irreversible losses).

Most canned fruits after production require aging for 10-15 days. During this time, the concentration of syrup or pouring is aligned between the fruit and the liquid part of the canned food. In addition, during this period, there is mainly a lack of canned food [2].

Canned goods are stored in the company's warehouse in boxes or without placing them in boxes, with packaging in boxes after quality assessment immediately before sending them to consumers. Boxes are placed on sturdy mobile trays (pallets), the height of which is not less than 0,15 m with the formation of stacks. The height of the stack for boxes with metal cans should not exceed 5 m. the width of the stack in heated warehouses 6 - 10 boxes, in unheated - 3-4. Each stack is formed by the assortment and batches of canned goods. Each stack hangs a tag with the name of canned goods, the number of boxes and cans in the party (stack), the date of manufacture and delivery of canned goods to the warehouse. Between the stacks along the length of the warehouses and opposite the doors provide the main passages at least 2.0 - 2.5 m wide. Products are stored in well-ventilated warehouses on wooden racks or pallets at a relative humidity of not more than 75%.

Storage temperature of fruit and berry canned products in all types of containers - from 0 to 25°C; fruit, berry and vegetable canned semi-finished products, as well as canned chemical preservatives in all types of containers - from 0 to 25°C.

Shelf life of compotes from the date of manufacture in months no more

1. with vitamin C - 12;
2. of dark-colored fruits and berries - 18;
3. other compotes - 24;
4. in tin containers - 12;
5. in aluminum containers - 24.

The products are transported in a contactless way by specialized tank cars and in a container way - by car-vans, cars with on-board platform (if necessary - with tarpaulin shelter), as well as in containers [3].

Canned goods in tin and glass containers are served for transportation packaged in boards and cardboard boxes and wooden cages. Banks are placed so that the possibility of moving them is excluded. Horizontal rows of cans in the box are shifted cardboard or solid paper gaskets.

• To avoid combat, the glass bottom and side walls of the cage must be laid out with a packaging material.

• Wooden boxes and cages should be firmly clogged and tightly wrapped on the ends with a knitting wire or metal packaging tape, which ensures the integrity of the packaging when transporting boxes that are stacked.

• Glass jars, glasses, bottles, vials with products when packaged in boxes are separated from each other by partitions forming cages to prevent glass fighting. Cardboard partitions should be made of thick cardboard.

In stores, canned goods should be stored in dry, well-ventilated rooms or chambers with a temperature of 0-20° C and relative air dampness not higher than 75% no more than 30 days. With prolonged storage of canned goods in the warehouse or in the store periodically check stocks and discard bombing, heavily deformed jars.

The consumer should not store canned food in the light, since the color of the product worsens, and the prolonged exposure to light can be reflected [4]. Canned goods cannot be stored next to heating or heating devices. Canned goods in a sealed container should be stored in a cool dry room at temperature of +15+20° C. In a raw room, tin lids that appeared at the same time the smallest holes can rust the cause of canned food spoilage due to penetration into the banks of microorganisms with air. Higher temperatures (+25...+40°C) contribute to the reduction of the taste of canned goods, since at such a temperature accelerates a number of chemical processes occurring in products. Storage of canned food at low temperatures (up to 0°C) is quite favorable. However, storage is lower than 0°C, when the contents of the cans can freeze and the liquid part will turn into ice, it is absolutely undesirable. First, it can burst banks.

In sealed cans, most sterilized canned food can be stored for a long time at normal room temperature. You cannot store canned food for a long time at a very high temperature (for example, near heating devices). Freezing is not allowed for fruit compotes, because after defrosting the vegetables and fruits become faded. The room where the canned goods are stored should be dry, because in a room with high dampness the jars and lids are easily subjected to rust.

From apple extracts, fruit powder is obtained, which is used in the confectionery, bakery and food concentrate industry for the manufacture of sweets, waffles, cakes, bread. Fruit powders can be obtained by sublimation drying. Apple extracts from apples is crushed, frozen in liquid nitrogen, freeze-dried in a nitrogen atmosphere, crushed in a frozen form using liquid nitrogen and packed in airtight packaging in nitrogen gas. Loss of vitamin C and carotene is minimal (2 - 6%). The humidity of the powder is 1,7 - 1,9%; the content of total sugar - 26.3 - 52.7%, pectin - 3.6 - 10.7, fiber - 7.1 - 13.8% [5].

Recycling of fruit seeds is carried out as follows: the shell, the content of which 69-88% of the mass of the seeds is used to produce the powder as a product used in the production of activated carbon or as a filler of special adhesives. Halva, marzipan masses and almond substitute, feed flour, oil are obtained from the kernels.

The stones isolated after crushing the fruit and separating the juice are washed on a drum or other washing machine, then immediately dried in dryers to a humidity of 13%, because storage longer than 7 - 8 hours leads to their mold, to darkening of the kernels. In washing machines, pulp remains are separated from the bones. Moisture residues are separated on the vibrating screen.

In mine, belt, vortex or drum dryers, the seeds are dried 8 hours after washing. Drying temperature is 80 - 120°C for 30 - 70 minutes.

The bones are cooled by a stream of cold air to a temperature of 30 - 40°C and packed in paper or linen bags.

Dried seeds are packed in bags up to 30 kg and sent to special plants, where they extract the kernel from them and used for food purposes. Activated charcoal is produced from the shell. Large batches of pits are allowed to be transported in carriages in bulk [6].

Storing compotes at home usually does not cause problems. The range of optimum temperature for compote is quite wide - from 2 to 14°C. The maximum shelf life of freshly cooked compote is no more than 2 days at a temperature of 2°C. And with an increase in temperature, accordingly, this period decreases significantly, up to 5 hours, if it is left at room temperature.

After the compote has cooled, it is left in a glass container or in plastic bottles. Of course, the reuse of plastic bottles is not welcome in the household, but when the compote needs to be frozen, it is impossible to do this in a glass container (in the freezer the glass will burst). By the way, as for storing compote in the freezer it is a great way to extend the life of the drink for several months.

f a home compote is planned to take in the near future, then the container with it is better to leave in the refrigerator or in the coolest place in the house. Of course, it should not be open.

It is enough to simply determine when the home drink has deteriorated - this will tell the foam on its surface, clouding, bubbles and the characteristic smell of fermentation. Do not rush to get rid of acid compote; it can be used to make wine.

The issue of waste disposal is important in the development of canning production in Ukraine. To date, many efforts have been made to ensure that any production has a small amount of waste, but these waste, as can be judged from the above, serve as raw materials for food powder, dyes, ethyl alcohol, lime wine, tannin and feed preparations. Modes of refrigeration storage of finished fruit canned food require improvement.

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DIGESTION AND METABILITY IN THE HUMAN BODY

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Today, the process of digestion is well known. This was made possible thanks to the efforts of scientists who have tried for many years to figure out what happens in the body when we swallow food. This involuntary process has been a mystery for a very long time [5].

As we have found that digestion is a chemical, sometimes also mechanical processing of food and it is a set of processes that ensure the breakdown of food substances into components suitable for absorption and participation in metabolism. Mechanical processing is grinding and mixing. Chemical processing is carried out by enzymes - substances of a protein nature and consists in the splitting of complex molecules into simple ones, capable of being absorbed in the intestine and entering the blood and lymph from the digestive canal [2].

Our findings reveal the digestive system includes the alimentary canal and digestive glands. The digestive canal includes the following sections: oral cavity, pharynx, esophagus, stomach, duodenum, small and large intestine.

Moving along the digestive tract, food experiences both mechanical and chemical influences, breaking down into molecules at the end. For a chemical effect on food, special glands enter the robots that secrete the most important enzymes necessary for the digestion and assimilation of food. These glands are: salivary glands - secrete saliva; the stomach glands produce gastric juice; pancreas - secretes enzymes to break down food in the small intestine; liver - secretes bile; intestinal glands - secrete intestinal juices [1].

Next, we should take a closer look at the metabolism itself.

Our study clarifies the metabolism and energy consists of two interrelated and opposite processes - assimilation and dissimilation. Assimilation, anabolism, or plastic metabolism is a set of reactions for the synthesis of high molecular weight organic substances, accompanied by the absorption of energy due to the breakdown of ATP molecules. Dissimilation, catabolism, or energy metabolism is a set of reactions of decomposition and oxidation of organic substances, accompanied by the release of energy and its storage in the synthesized ATP molecules.

Our findings confirm that metabolism as the main process of life can be divided into three stages. The first is enteral metabolism (digestion) - is the mechanical and chemical processing of food components in the digestive and absorption organs.

The second stage is intermediate or intracellular metabolism, which includes the processes of decomposition and synthesis of substances in body tissues. It is accompanied by the formation of a large number of intermediate and later end products of metabolism. Intermediate exchange is characterized by step-by-step processes. In this case, high-molecular and low-molecular compounds, before being transformed into end products of metabolism (CO_2, H_2O, urea, etc.), undergo a number of intermediate stages, in which the decomposition reactions alternate with the synthesis processes.

The third stage is the excretion of end products of metabolism from the body with urine, feces, exhaled air, etc [3].

We can confirm the value of ATP in metabolism. The energy released during the breakdown of organic substances is not immediately used by the cell, but is stored in the form of high-energy compounds, usually in the form of adenosine triphosphate (ATP). By its chemical nature, ATP belongs to mononucleotides and consists of the nitrogenous base of adenine, the carbohydrate ribose, and three phosphoric acid residues.

The energy released during the hydrolysis of ATP is used by the cell to perform all kinds of work. Significant amounts of energy are spent on biological synthesis. ATP is a universal source of energy supply for the cell. The stock of ATP in the cell is limited and is replenished due to the process of phosphorylation, which occurs with different intensities during respiration, fermentation and photosynthesis. ATP is renewed extremely quickly (in humans, the lifespan of one ATP molecule is less than 1 minute).

To summarize, the basis of cell life is metabolism and energy conversion - metabolism. Cell metabolism is a complex multistage process consisting of assimilation (synthesis reactions) and dissimilation (decay reactions). These processes are interconnected and provided by the enzymatic systems of the cell. Primary synthesis of organic matter - photosynthesis is carried out from inorganic substances under the influence of the energy of sunlight. It ensures the accumulation of this energy into the energy of chemical bonds of organic substances.

All other metabolic processes occurring in the cell use the energy of chemical bonds stored in the primary synthesized organic substances. The transformation of energy in the cell is carried out by a universal source of energy - ATP [4].

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SOCIÉTÉ. ÉCONOMIE. TECHNOLOGIES ET INNOVATIONS

LES NOUVELLES TECHNOLOGIES MODERNES APPLIQUÉES À L'ÉLEVAGE

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L'élevage est l'un des principaux secteurs de l'agriculture, le plus développé dans des pays comme la France, l'Allemagne, les États-Unis, avec des performances économiques élevées et un niveau d'industrie élevé. Cela signifie que le secteur de l'élevage est en expansion constante et modifie ses activités.

Les processus d'innovation jouent un rôle important dans tous les domaines de l'agriculture et leur fonction principale est de rendre le processus meilleur, plus rapide et plus efficace. La question de l'amélioration de l'efficacité dans l'industrie de l'élevage est à l'étude au niveau de l'État. Dans les pays européens, l'accent est mis sur l'élevage de bovins laitiers et de bovins de boucherie. Afin d'augmenter la productivité, les agriculteurs se tournent vers des races animales productives, essayant d'améliorer les conditions de logement et d'acquérir les derniers équipements pour le logement et les soins. Dans le même temps, la demande de matières premières, de matériaux et d'aliments pour animaux, de services de maintenance augmente. Cependant, l'introduction de technologies innovantes dans l'agriculture permet d'automatiser entièrement le processus et de réduire le nombre d'employés. Par conséquent, des difficultés surviennent souvent avec le personnel, car l'enseignement agricole est spécifique selon les normes modernes.

L'automatisation du processus d'élevage accompagne chaque étape de la planification, de la documentation aux appareils de haute technologie. Un système intensif est un système dans lequel le travail physique d'une personne est réduit au minimum, fonctionne selon une technologie basée sur l'utilisation intégrée des dernières réalisations scientifiques et technologiques.

L'objectif principal des éleveurs est de contrôler les coûts d'alimentation, d'accélérer le temps de traite, d'augmenter le niveau de graisse et de protéines et de réduire la quantité de tâches quotidiennes. À cette fin, de nombreux éleveurs s'interrogent sur la traite robotisée, argumentant que les vaches peuvent choisir elles-mêmes l'heure de la traite, l'heure de l'alimentation, le repos et le pâturage. Dans les fermes commerciales en France, en Allemagne, en Suède, au Danemark, où le lait est produit, les robots des concepts Lely (Pays-Bas) et DeLaval (Suède) sont le plus souvent utilisés. En 2012-2013, l'Allemagne représentait plus de 50 % des systèmes robotiques vendus. Au Danemark et en Suède, ce pourcentage était d'environ 60 %, en Finlande - 80 %.

Pour la traite naturelle et le logement libre des vaches, le robot de traite Lely Astronaut 5 a été développé avec le concept I-flow, qui permet à la vache d'entrer et de sortir directement et de rester dans le champ de vision des autres vaches. Cette interaction naturelle évite le stress pendant la traite et lorsque la vache est calme, elle est plus productive. En conséquence, à la fois le nombre de traites et le rendement laitier augmentent (une vache peut visiter le robot jusqu'à 3 fois par jour, contrairement aux installations de traite avec la participation humaine, où la traite est effectuée au moins 2 fois par jour). De plus, le robot-trayeur permet d'économiser sur d'autres coûts d'exploitation (carburant, aliments, médicaments). Le robot de traite doit être installé au bout des stalles ou entre les allées, perpendiculairement aux box. Il est souvent installé à côté du compartiment de lait pour accélérer l'écoulement du lait dans le tank. Il est nécessaire de prévoir une zone d'attente pour plusieurs vaches et une zone d'isolement à proximité du robot. C'est la liberté qui aide les animaux à s'habituer rapidement à la traite robotisée dès la première semaine. Le système de décrochage qui consiste à suivre une méthode lâche est tout à fait propice à cela.

Le box du robot de traite adapté aux vaches s'ouvre dès que la vache précédente l'a quitté. Les portes automatiques bloquent la vache individuellement, en fonction de sa taille. Le robot connaît la position exacte du pis et le régime (le régime est déterminé par la phase de lactation de la vache). Pendant que l'animal est distrait par la nourriture, le bras-manipulateur I-flow utilise des caméras pour traiter le pis, met des verres à lait et est capable de se déplacer avec les mouvements de la vache. Il est si fort que même si la vache marche dessus, il ne sera pas endommagé. Le bras hybride combine les avantages du mouvement électrique avec la douceur et la force de l'air. Un grand vérin pneumatique supporte le poids du bras avec pratiquement aucune consommation d'air, tandis que les composants électriques déplacent le bras avec la précision. L'air dans le système équilibre la charge sur la flèche et amortit le choc de la vache, protégeant ainsi le système électrique.

Grâce aux brosses, les trayons sont nettoyés de manière plus impulsive qu'avec un simple rinçage. Les brosses stimulent également l'écoulement du lait. Les brosses sont désinfectées après chaque nettoyage pour éviter les contaminations croisées.

Un système laser triple bande détecte la position exacte des trayons. À l'aide d'une caméra tridimensionnelle pour déterminer avec précision la position de la vache dans le box, des brosses et des gobelets sont utilisés pour localiser le pis. L'installation des gobelets trayeurs sur chaque quart de la mamelle se fait avec précision au moment de la numérisation. Au cas où la vache laisserait tomber les gobelets, ils seront remis dans la mamelle en quelques secondes. Des recherches ont montré que les robots Astronaut avec le concept I-flow réduisent les temps de traite de 4 % par rapport aux modèles précédents.

Pendant la traite, le logiciel compare en permanence les performances de chaque animal et, si des écarts sont détectés, il affiche immédiatement des informations à ce sujet sur l'écran. Le système Lely MQC-C mesure des paramètres importants tels que: matières grasses et protéines, conductivité, couleur du lait, durée de traite par trimestre et temps d'arrêt. Le transport du lait, grâce à la conception spéciale de la pompe, s'effectue sans détruire sa structure, tout en maintenant sa haute qualité.

En retirant la mangeoire devant la vache après la traite, le robot facilite sa sortie rapide du box, puisqu'un obstacle disparaît sur son chemin. Le nettoyage à la vapeur des gobelets trayeurs neutralise 99 % de toutes les bactéries sans l'utilisation de produits chimiques, garantissant une stérilité complète et en même temps ne pollue pas l'environnement. Le nettoyage automatique du sol a lieu après chaque visite de la vache au robot de traite.

L'équipement supplémentaire pour les robots de traite, c'est le même concept Lely: le distributeur d'aliments liquides Lely Titania, le prérefroidisseur de lait compact, Lely M4Use – le séparateur, le cuve de refroidissement Lely Nautilus, Lely Shuttle qui prélève automatiquement un échantillon de lait à chaque traite. La boîte de sélection Lely Grazeway a une particularité. Avant qu'une vache puisse sortir au pâturage, elle passe par une identification dans le box qui détermine si elle doit être traitée ou si elle peut aller au pâturage.

En plus de tous ses avantages, le robot Lely a un retour élevé sur les investissements. Le principe Lely pour tous ses produits est la consommation d'énergie la plus faible. Le manipulateur unique et la faible consommation de détergents et d'eau permettent d'obtenir une réduction de 20 % de la consommation d'énergie. Les coûts supplémentaires associés à l'amortissement et à l'entretien sont compensés par des coûts de main-d'œuvre inférieurs et une meilleure santé des vaches. Le système de traite Astronaut est assemblé uniquement à partir de pièces de haute qualité, avec une conception d'unité centrale pour un fonctionnement rapide et sûr du technicien. Par conséquent, une longue durée de vie jusqu'à 15 ans, la maintenabilité et l'aptitude aux mises à niveau du système garantissent un profit sur les coûts.

Le logiciel de gestion de troupeau et de ferme T4C, installé sur un smartphone, fournit des informations sur chaque traite parfaite, alimentation, reproduction et pâturage des animaux. En outre, il intègre d'autres robots tels que le robot d'alimentation Lely Vector, le distributeur de concentré Lely Cosmix, le pousseur d'aliments Lely Juno et d'autres appareils, le tout dans un seul programme. Chaque vache a un collier avec un capteur du système Lely Qwes-H intégré qui lit des informations sur son activité, l'intensité de ses mouvements, la nutrition, le repos, les changements de santé, etc. Une étiquette sur le dessus du collier crée un indice d'activité de la vache, qui détermine le moment de l'insémination. Il en résulte l'optimisation de la reproduction, la minimisation des intervalles entre vêlages. Le système de contrôle T4C réduit les coûts d'alimentation en améliorant l'efficacité alimentaire en ajustant automatiquement les rations pour chaque vache en fonction du rapport coût/bénéfice. Les changements dans l'activité de mastication sont un indicateur précoce de problèmes potentiels. Plus tôt un éleveur peut obtenir des informations sur un problème de santé animale, moins il dépensera d'argent pour le résoudre.

Le programme Lely Horizon est une autre opportunité de gérer non seulement le cycle de traite des vaches mais aussi tous les autres robots de la ferme. Il diffère de T4C en ce qu'il analyse les données, propose des conclusions et des recommandations proactives, traite les données des robots, ainsi que les données des fournisseurs de la ferme, les transformant en informations utiles.

Selon les dernières recherches d'IDTechEx, en 2023 le volume de robotisation des fermes laitières passera à 8 milliards de dollars. Le nombre de robots d'alimentation, de pousseurs et de nettoyeurs mobiles augmentera également. Même des expériences avec des robots de traite mobiles sont en cours, bien que ce produit ne soit pas encore produit en série.

En conclusion, on peut citer les inconvénients des machines à traire robotisées. En raison de l'effacement des facteurs humains en termes de soins des animaux, la plupart des travailleurs agricoles se retrouvent sans travail, car dans de telles conditions, l'entreprise ne nécessite qu'un seul opérateur de contrôle de programme, un technicien en élevage et un spécialiste technique. Il faut préciser que la formation de ces spécialistes est souhaitable à l'étranger, mais ces employés coûtent cher.

En outre, il peut y avoir des cas associés au psychotype, aux déficiences physiologiques des animaux, par exemple, lorsqu'une vache ne veut pas s'approcher du robot (le pourcentage de telles vaches dans un troupeau peut aller jusqu'à 10 %), ou les vaches "non- standards" dont les trayons postérieurs du pis sont très rapprochés, ou avec un pis bas. Un robot- trayeur ne peut pas servir de tels animaux.

De plus, le maintien constant des vaches à l'intérieur de la ferme et dans des enclos, sans pâturages, affecte dans une certaine mesure le potentiel génétique des animaux, en les transformant en "machines".

Compte tenu de ce qui précède, on peut affirmer avec certitude que dans un *proche avenir*, la division des complexes d'élevage en systèmes d'hébergement semi-intensifs (directement avec la participation humaine) et intensifs, y compris les fermes robotisées, se poursuivra dans le monde.

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ANALYSE DE LA SITUATION ET DES PERSPECTIVES DE LA CULTURE DU SOJA EN UKRAINE

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La production végétale est l'une des principales branches de l'agriculture de l’'Ukraine. C'est une grande partie de la production agricole et a un impact significatif sur l'économie du pays. C'est dans ce domaine que se produisent toujours de grands changements, conduisant au développement d'autres structures de production. En raison des conditions météorologiques modérées et de la fertilité des terres noires, l'Ukraine est un leader dans l'exportation de cultures. Parmi ceux-ci, des taux toujours élevés sont donnés par: le maïs (30,3 millions de tonnes), le blé (20,5 millions de tonnes) et l'orge (5,08 millions de tonnes). Mais ce ne sont pas toutes les cultures dominantes dans lesquelles le pays est engagé. Parmi ceux-ci, les oléagineux: colza (2,22 millions de tonnes), soja (près de 1,1 million de tonnes) et tournesol (163 mille tonnes). De toutes ces cultures, seul le soja a récemment apparu et déjà c'est vite répandu. Alors, comment cette plante est-elle cultivée exactement, quels sont les risques pour la croissance et sa vie , à quel point les technologies de sa récolte sont-elles bien développées et s'il vaut la peine de continuer à la cultiver en Ukraine.

Il est impossible de dire exactement quand l'État s'est intéressé à la culture du soja. Mais on sait que sa production au cours de 1964-2014, après avoir fait un bond colossal, a augmenté de près de 9 fois. Ceci est démontré par les données du département américain de l'Agriculture, qui indique que l'Ukraine a été incluse dans le Top 10 des plus grands pays producteurs de soja au cours de la période 2012-2014. Et on sait aussi que ce n'est qu'en 2010 que la superficie des cultures a franchi la barre du million d'hectares.

Le problème de la production de soja dans le monde et directement en Ukraine intéressait les scientifiques ukrainiens et étrangers, tels que: Maslak O., Repilevsky E., Tymchenko V., Biryukov P., Kazakova I.V., Kondratyuk N.V. et d'autres.

Quelle est cette culture et pourquoi est-elle devenue si populaire? Le soja est une légumineuse qui ressemble beaucoup aux haricots. Ses graines contiennent 35 à 45 % de protéines, 17 à 25 % de matières grasses, 1 à 2 % de lécithine, 5 à 6 % substances de cendre et de vitamines. En raison de ses propriétés, le soja convient à la fabrication de farine, d'huile, de céréales, de lait de soja, de café, etc. Il est également utilisé pour l'alimentation du bétail, voire pour la production de biocarburants. Par conséquent, il convient de noter que le soja est une ressource mondiale très précieuse et constitue le principal produit d'exportation vers la Chine et d'autres pays d'Extrême-Orient. Là-bas, le soja est un substitut de viande important et fait partie intégrante de l'alimentation quotidienne.

Il n'est pas surprenant qu’on a commencé également à cultiver cette culture en Ukraine. En raison de l'amour du soja pour la chaleur combinée à l'humidité, le pays a toutes les chances de le produire. Mais les propriétaires préfèrent semer plus tôt, lorsqu'il y a plus d'humidité que de chaleur, parce que l'humidité fait partie intégrante de la formation de la croissance et de la qualité des fruits de la plante. C'est pourquoi les variétés populaires sont "Denny" et "Manhattan", qui conviennent aux semis précoces. Cependant, il existe également un certain nombre de facteurs qui entravent à tout moment le développement de la culture du soja. Parmi eux: les nuisibles, c'est-à-dire les mauvaises herbes classiques. Cette raison est assez importante, car en raison de sa croissance, le soja ne peut pas rivaliser avec eux sans influence humaine. Et tout cela à cause du système racinaire très développé, qui ralentit la croissance de la culture. Les mauvaises herbes peuvent aspirer de la plante tous les nutriments qui entrent dans la formation d'une fleur saine et d'un chapelet de haricots.

De plus, la complexité de la culture est: l'introduction constante de chaux et de phosphore dans le sol. Enfin, la dernière raison la plus importante de la faible culture du soja sont les parasites. Parmi eux: la luciole de l'acacia, la teigne de la luzerne, le charançon du soja et le tétranyque, très répandus en Ukraine. Mais non seulement les insectes menacent de réduire les rendements, mais aussi les maladies, dont la plupart sont causées par des champignons. À côté d'eux se trouvent des maladies liées à un ensoleillement excessif: brûlures bactériennes, mosaïque jaune du soja, etc.

En ce qui concerne la technologie de semis et de récolte de la plante, les agriculteurs ukrainiens ne rencontreraient aucune difficulté, car la récolte s'effectue par la méthode directe de la combinaison, c'est-à-dire, un seul passage de la récolteuse sur le champ.

Malgré toutes les difficultés de la culture du soja en Ukraine, cette année, la superficie ensemencée est passée à 2 millions d'hectares. En outre, le prix d'une tonne de semences sur le marché mondial est déjà environ 20 000 UAH, ce qui fait du soja une culture très rentable pour les propriétaires fonciers et l'État dans son ensemble.

Conclusion. En résumant tout ce qui précède, nous ne pouvons tirer qu'une seule conclusion : en Ukraine, on a peur de cultiver du soja. Personne n'a l'intention d'abandonner la culture de céréales déjà établies sur le marché. C'est très effrayant d'abandonner quelque chose qui a pris racine, pour quelque chose d'inconnu. Il est possible que le soja remplace un jour encore plus de biens de consommation et devienne une culture précieuse à la fois en Eurasie et à l'étranger. Mais pour l'instant, ce que nous avons maintenant n'interfère et n'affecte pas du tout les exportations. Compte tenu de la poursuite de l'augmentation de la production d'engrais chimiques et de médicaments végétaux, la culture du soja ne dépendra bientôt que de la météo. Mais l'impulsion pour augmenter la culture du soja peut aussi être une « demande ». Il y a des pays qui ont un grand besoin de notre intérêt pour la culture, et d'un point de vue scientifique, cette idée a le droit d'exister. En attendant, il suffit de ne pas baisser les volumes et de les garder au moins sur une barre constante.

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TECHNOLOGIES POUR LA CULTURE DES PASTÈQUES ET DES PROBLÈMES DE LA MISE EN ŒUVRE DES VENTES SUR LES MARCHÉS NATIONAUX ET ÉTRANGERS DE L'UKRAINE

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En Ukraine, il y a un potentiel énorme pour la culture des pastèques. On a des conditions naturelles favorables pour les cucurbitacées. Les agriculteurs ukrainiens sont convaincus, qu'en combinant les technologies modernes, le pays pourrait prendre une place importante parmi les pays ayant battu des records dans la culture de pastèques.

Il est impossible d'imaginer l'été sans pastèque juteuse, douce et parfumée. Par conséquent, malgré le fait que la pastèque soit loin d'être une culture de melon facile à cultiver, elle n'est possible que pour les propriétaires de champs les plus patients et persistants qui essaient avec diligence de faire pousser ce merveilleux fruit sur leurs terres. En Ukraine, traditionnellement on appelle la pastèque "la culture de sud", car elle pousse mieux et plus rapide dans cette région du pays. Cependant, si on suit strictement les recommandations des producteurs de melons expérimentés, même dans la partie occidentale de l'Ukraine, il sera possible de cultiver une délicieuse pastèque sucrée, pas pire que la pastèque de Kherson.

La culture des pastèques, comme la culture en plein champ, commence par la sélection et la préparation du sol. Il convient de garder à l'esprit que des pastèques ne peuvent pousser qu'à certains endroits du terrain, qui doivent tout d'abord être bien éclairés par le soleil. À l'ombre et même à mi-ombre, la pastèque ne poussera pas. Il est souhaitable que le sol du champ soit riche, meuble, sablonneux et léger. Cependant, avec des soins appropriés et une alimentation appropriée, la pastèque prospérera également sur d'autres types de sol. L'indicateur de la solution du sol doit être entre 6,7 et 7,0 pH, s'il est nécessaire, l'acidité du sol peut être ajustée en ajoutant des substances spéciales sur cette parcelle. Les meilleurs prédécesseurs de la pastèque sont des céréales et des légumineuses. Il n'est pas recommandé de planter cette culture après la citrouille et la morelle.

L'un des points clés, qui assure la réussite de la culture des pastèques en Ukraine, est la préparation obligatoire des graines avant le semis. Pour cela, la graine est immergée dans une solution saline. Les graines qui ont fait surface sont rejetées. Les graines calibrées, qui ont coulé au fond d'un récipient avec de l'eau salée, sont séchées, chauffées (55°C) jusqu'à ce qu'elles soient fluides ou soient laissées au soleil 7 à 10 jours avant le semis.

Il existe une autre méthode efficace pour le traitement des semences avant le semis: les graines sont placées dans un sac de gaze et immergées dans une solution faible de permanganate de potassium. Après cela, les graines traitées sont placées dans un sac en plastique et laissées gonfler sur un appui de fenêtre pendant trois jours, en changeant l'eau quotidiennement. Ces deux méthodes sont considérées comme les plus efficaces et donnent de bons résultats.

Il a été prouvé qu'avec la technologie consistant à cultiver des pastèques en pleine terre et à semer des graines dans le sol, ces plantes sont plus résistantes à la sécheresse et à d'autres conditions météorologiques défavorables. Cependant, dans le même temps, la période de maturation de leurs fruits est quelque peu retardée.

Le semis des graines de pastèque qui ont subi telle préparation commence lorsque le sol se réchauffe à 12-15 ° C. En règle générale, les premières pousses apparaissent le 8-10-ème jour. Dans des conditions de température du sol inférieure à 12°C, la germination des graines est inhibée, tandis que les semis sont hétérogènes et faibles. La profondeur de semis des graines est de 1 à 6 cm, selon sa taille: plus la fraction de graines est fine, plus la profondeur de son semis est faible.

Le schéma de semis de la pastèque est choisi en tenant compte de la méthode de culture des plantes, du groupe de maturité et du type de variété, ainsi qu'en fonction de la taille souhaitée du fruit. D'après la méthode carrée de plantation de pastèque on compte le placement le plus optimal des plantes sur le terrain, où la distance entre les trous est de 50-70 cm et entre les rangées - 70-80 cm.

Avant de faire pousser une pastèque sur le champ, il est nécessaire de travailler beaucoup, surtout après l'apparition des premières pousses. Les jeunes plants doivent être éclaircis, en laissant 1 à 2 plantules solides dans chaque trou. Les soins supplémentaires pour les pastèques comprennent l'alimentation et le desserrage des espacements entre les rangs. Pendant la saison de croissance, il est nécessaire d'ameublir le sol 2 à 3 fois jusqu'à la profondeur de 8 à 10 cm. Pour augmenter le rendement des pastèques, leur résistance aux maladies et aux intempéries, ainsi que pour améliorer la qualité et la teneur en sucre des fruits, il est recommandé de procéder à une alimentation racinaire et foliaire avec des produits équilibrés.

Les producteurs de pastèques expérimentés recommandent de respecter les règles optimales de la technologie agricole des pastèques et d'éviter ces erreurs courantes lors de la culture des melons d'eau:

- Lors du choix d'une variété, il est important de faire attention au groupe de maturité. Il ne faut pas acheter des variétés tardives de pastèque, quelles que soient les caractéristiques gustatives de leurs fruits;

- Ne pas semer les graines de pastèque trop profondément, surtout sur des sols lourds et pauvres, cela prendra beaucoup de temps à germer;

- Refuser de la culture de pastèques sur une parcelle avec des mauvaises herbes vivaces, car les mauvaises herbes endommageront les jeunes plantes, inhiberont leur pleine croissance et leur développement;

- Ne pas utiliser de zones semi-ombragées: sous les arbres et les arbustes les plantes ne pourront pas former une bonne récolte;

- Effectuer des mesures de prévention et assurer l'alimentation des plantes pendant leur saison de croissance, car cela peut affecter considérablement la qualité de la récolte.

Les pastèques étaient également cultivées par les Chinois, qui les appelaient "melon de l'Occident", et les Arabes, qui les utilisaient avant les repas pour nettoyer le corps. Les croisés ont apporté les pastèques en Europe et les Cosaques les ont apportées d'Asie centrale sur le territoire de l'Ukraine via Astrakhan. Aujourd'hui, la Chine est la championne de la culture des pastèques, suivie par la Turquie, l'Iran, l'Égypte, les États américains, ainsi que l'Ouzbékistan et la Russie.

Les pastèques poussent mieux dans un climat avec des étés longs, chauds et secs et des hivers courts et froids. Pour la première fois depuis 2010, l'Ukraine est devenue le principal fournisseur de pastèques sur le marché biélorusse, en supplantant la Russie. Cet événement est à noter dans le contexte d'une augmentation du coût de la logistique de la pastèque de l'Ukraine vers le Bélarus, un taux de TVA élevé sur les fruits en Ukraine par rapport à la Fédération de Russie et des coûts d'emballage supplémentaires de 0,03 $ / kg, ce qui correspond en fait au coût de la pastèque elle-même en Ukraine. Et pourtant, la pastèque ukrainienne de Kherson est désormais plus compétitive sur le marché biélorusse que celle d'Astrakhan.

Le marché des pastèques, comme une roulette. Cette année, les producteurs ukrainiens de pastèques n'ont pas eu de chance, car il y avait de grandes difficultés avec les ventes sur les marchés nationaux et étrangers. L'année dernière, dans un contexte de mauvaises récoltes en Russie et en Hongrie, l'Ukraine a réalisé une exportation record en vendant 34 000 tonnes de pastèques. En 2019, ce chiffre était de 6 000 tonnes, un an plus tôt - 20 000 tonnes. Les principaux marchés d'exportation des pastèques ukrainiennes sont les pays baltes et la Biélorussie. En défendant son marché, la Biélorussie a imposé l'obligation de fournir des pastèques en boîtes et par lots de 20 tonnes et a introduit une taxe pour les commerçants. Alors que les exportateurs russes n'ont pas besoin de payer de taxes et sont autorisés à importer des envois de 24 tonnes.

En Ukraine, on a commencé à cultiver des pastèques de niche - sans pépins, de différentes couleurs (jaune, orange), de différentes formes. Ces pastèques sont populaires sur les marchés européens - en Allemagne, dans les pays scandinaves. Cependant, pour les livraisons à l'étranger, il faut s’occuper de l'emballage. Les chaînes ukrainiennes commencent également à exiger des emballages spéciaux. Au lieu de conteneurs pour pastèques, on utilise des octabins, ce sont des boîtes pour le transport de flans en PET à l'aide dequelles on transporte des pastèques depuis environ 10 ans. Deux types de colis ont été développés: une caisse pour des pastèques et melons de 20 kg et un conteneur pour le transport routier. En Ukraine, malheureusement, seules deux usines produisent du carton de haute qualité et les matières premières sont devenues très chères cette année.

L'été 2021 est très infructueux pour les producteurs de pastèques : le mauvais temps au début, les pluies et les basses températures ont retardé la récolte des pastèques précoces, donc au lieu de fin juin, les produits ont été récoltés mi-juillet, soit un mois en fait plus tard. Les concurrents (Hongrie, Roumanie, Moldavie, Russie) ont poussé l'Ukraine hors des marchés d'exportation. Le rendement des pastèques est plus faible. Si les années précédentes ils recevaient plus de 50 t/ha, maintenant c'est environ 45 t/ha. Il n'y a pas de demande, le prix du champ est bas. La quasi-totalité de la récolte est vendue sur le marché intérieur et seule une petite partie est exportée.

Par conséquent, la culture des pastèques n'est pas une tâche facile, qui prend beaucoup de temps, de propres dépenses, pour lesquelles vous risquez de ne tirer aucun profit et de vous rester sans rien.

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L'IMPACT DU RÉGIME VÉGÉTARIEN SUR LA SANTÉ HUMAINE

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En Ukraine, le véganisme ou végétalisme intégral, s'est fait sentir vers le début des années 2010 et propose aujourd'hui à ses adeptes une large gamme de produits comme viande, fromage, lait végétaliens, etc. Cependant, les chaînes de supermarchés sont toujours dominées par les produits d'importations en provenance des Pays-Bas et d'Allemagne. Malgré la concurrence les fabricants ukrainiens gagnent en toute confiance du poids commercial.

Aujourd'hui, en raison de l'insuffisance de l'approvisionnement de la population en nutriments importants, une nutrition rationnelle acquiert une importance particulière. La nourriture assure la fonction la plus importante du corps humain, lui fournissant l'énergie nécessaire pour couvrir les coûts des processus vitaux. En raison de l'apport de substances "plastiques" avec les aliments: protéines, graisses, glucides, vitamines et sels minéraux, les cellules et les tissus se renouvellent. Enfin, la nourriture c'est la source de la formation d'enzymes, d'hormones et d'autres régulateurs du métabolisme de l'organisme. Les substances qui pénètrent dans le corps par la nourriture affectent notre état d'esprit, nos émotions et notre santé physique. Notre passivité ou activité physique, la dépression ou la gaieté dépendent en grande partie de la qualité de l'alimentation [1].

Les produits alimentaires peuvent être divisés en plusieurs types, parmi lesquels les plus courants sont : classiques, séparés, fractionnés, diététiques, aliments crus, produits végétariens et autres. Pour identifier le type de nourriture la plus prioritaire parmi les habitants de l'Ukraine, une enquête a été menée, dont le résultat a montré que sur 100 personnes interrogées, 50 % de personnes préfèrent la nourriture classique, 20 % - la nourriture végétarienne, 10 % utilisent des aliments mixtes et 20% préférent d'autres types de la nutrition.

L'un des plus populaires et déjà très répandus dans le monde et dans notre pays, en particulier, est le principe de nutrition végétarien. Le végétarisme peut être divisé en groupes. On a été constaté que parmi les personnes qui préfèrent le végétarisme, 45% d'entre elles préfèrent le pseudo-végétarisme, 8% - végétalien, 25% choisissent le lacto-végétarisme et 22% - végétarien. Les aliments doivent contenir des protéines, des graisses, des glucides, des vitamines et des minéraux, ainsi que de l'eau dans les quantités requises. Dans le même temps, le besoin de la quantité totale et de l'équilibre des composants nutritionnels individuels dépend principalement de l'âge, du type d'activité professionnelle et des conditions de la vie. La nutrition physiologique (rationnelle) représente généralement les normes qui couvrent complètement toute la consommation d'énergie du corps, et pour les enfants, elles fournissent également les processus de la croissance et du développement [2].

Les végétariens confirment les avantages du végétarisme :

1) Le régime contient une quantité importante de fibres végétales, qui contribuent à l'élimination des toxines et des substances nocives du tractus intestinal, donnent une sensation de satiété en temps opportun.

2) Les légumes et les fruits contiennent des quantités importantes de potassium et de magnésium. Ils sont dominés par des équivalents alcalins, qui aident à protéger le corps contre les maladies.

3) Les fruits et légumes sont les principaux fournisseurs de vitamines (P et C, bêta-carotène, folates) et de terpénoïdes anticancéreux.

4) Il n'y a pas de cholestérol dans les aliments végétaux, et certains d'entre eux ont la capacité de réduire sa teneur dans le sang.

5) Le corps devient moins sensible aux maladies du système cardiovasculaire, au cancer, à l'athérosclérose.

Pour pallier le manque d'oligo-éléments dans une alimentation végétarienne, il faut:

- augmenter l'apport en vitamines et minéraux (œufs de poule, herbes, fromage blanc, viande de mouton, produits laitiers, poisson, églantier, agrumes et autres);
- augmenter la consommation d'acides aminés et de protéines (produits carnés, œufs de poule) [3].

Les résultats peuvent varier selon les catégories d'âge, le sexe, la nature du travail. Malheureusement, la plupart des gens ne suivent pas leur mode de vie et leur régime alimentaire. Pour normaliser le travail du corps, il est important de consulter un médecin et établir un régime alimentaire individuel rationnel, mieux un régime alimentaire mixte

Chaque personne a ses propres motivations lors du choix du type de la nourriture. On va considérer les motivations des végétariens: morales: dans le souci de ne pas faire souffrir les animaux, afin d'éviter leur exploitation et leur assassinat; économiques : la conviction qu'un régime végétarien permet d'économiser de l'argent sur la consommation de produits carnés; écologiques : la conviction que l'élevage des animaux a un impact négatif sur l'environnement; informatives; les croyances religieuses; les recommandations du médecin; l'âge de la personne est le motif déterminant le plus important.

Les gens qui mangent de la viande ont de nombreuses objections à un régime exclusivement végétal. Le principal argument des opposants au végétarisme est son impact négatif sur la santé. Il existe des nutriments essentiels qui ne peuvent être obtenus qu'à partir de produits d'origine animale - protéines complètes, acides gras oméga-3, vitamines D et B12. La carence de ces éléments entraîne des maladies graves.

Voici quatre autres arguments contre le végétarisme :

- Manger des produits animaux n'est pas la cruauté, mais une partie de la chaîne alimentaire naturelle. Les méthodes d'abattage modernes éliminent pratiquement toute souffrance animale.
- Les pesticides et les engrais chimiques utilisés pour la culture des légumes empoisonnent l'environnement et le corps humain.
- La production de protéines artificielles pour les végétariens crée plus de gaz à effet de serre que l'élevage d'animaux.
- Le végétarisme ne contribuera pas à prévenir la faim dans le monde. On produit suffisamment de nourriture sur la planète pour tout le monde, mais elle n'est pas disponible dans le tiers monde.

Il y a des complications pour les végétariens du point de vue médical. Un menu à base de plantes permet de satisfaire pleinement les besoins de l'organisme, mais seulement avec un plan nutritionnel clair. Le deuxième problème du végétarisme est d'ordre économique. Les céréales complètes, les légumes et les fruits sont chers. De nombreux végétariens remplacent les produits d'une alimentation correcte par des pâtes bon marché. Un autre point délicat du végétarisme est la vie sociale. Pas tous sont prêts à accepter leurs convictions, d'où naissent les conflits et les discussions.

La science fournit des preuves à la fois pour et contre les enseignements des végétariens. Une expérience américaine de 2015 montre qu'un régime végétarien réduit efficacement les taux de cholestérol et de sucre dans le sang. Les décès dus aux maladies cardiaques sont 24 % moins nombreux chez les végétariens que chez les gens qui mangent de la viande. Les végétariens stricts courent un risque plus élevé d'accident vasculaire cérébral en raison d'une carence en vitamine B12.

Sur la base de ce qui précède, à mon avis, seule une approche consciente et réfléchie de sa propre nutrition et sa santé peut faire du végétarisme non seulement un régime, mais un mode de vie particulier qui n'apporte que des avantages, tout en évaluant l'état de la santé, l'âge, le lieu de résidence et les recommandations du médecin traitant.

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LA MIGRATION DES UKRAINIENS COMME L'UN DES FACTEURS DE RISQUE POUR LE DÉVELOPPEMENT ÉCONOMIQUE DE L'UKRAINE

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Actuellement, on observe un mouvement de travailleurs ukrainiens qui quittent leur pays en recherches de sources de vie dans d'autres pays. La majorité des Ukrainiens (51%) considèrent que leur niveau de revenu est insuffisant pour une vie normale. Seulement moins de la moitié de la population (44%) est satisfait de son travail actuel. Selon le Service national des statistiques, au cours des 12 dernières années, il y a eu une augmentation de la migration de la population en Ukraine. Pendant cette période, plus de 230 000 personnes de l'Ukraine sont partis à l'étranger. Dans le même temps, selon l'ONU, l'Ukraine fait partie des dix pays comptant le plus grand nombre d'émigrants, et ce nombre a augmenté ces dernières années.

Selon le Service national des statistiques, 1,303 million de travailleurs ont quitté l'Ukraine en 2015-2017. Le groupe le plus important de travailleurs migrants, plus d'un quart, constitue des personnes âgées de 40 à 49 ans. Les experts donnent des estimations de 2 à 4 millions. Par exemple, de nombreux politiciens affirment que ces dernières années, de 5 à 8 millions d'Ukrainiens ont quitté le pays, fuyant la pauvreté et le chômage. Les problèmes de migration des Ukrainiens à l'étranger deviennent de plus en plus compliqués parce que beaucoup d'Ukrainiens quittent le pays afin de s' installer durablement.

L'ONU donne une définition large d'un migrant: elle inclut à la fois les personnes qui vont à la résidence permanente et celles qui partent pour étudier ou travailler, ainsi que les réfugiés et les demandeurs d'asile. Les recommandations de l'ONU de 1998 définissent les migrants internationaux comme des personnes qui quittent leur pays de résidence habituelle pour une raison quelconque. L'ONU identifie les migrants à long terme (plus de 12 mois) et à court terme (de 3 à 12 mois).

Dans les premières années de l'indépendance, près de 85 % des émigrants ukrainiens vivaient dans les pays de l'ex-URSS (il s'agissait pour la plupart de personnes nées en RSS d'Ukraine et qui, à un moment donné, ont déménagé pour vivre dans une autre république de l'Union). En 27 ans, le nombre d'Ukrainiens dans ces pays est passé de 4,6 à 4,1 millions, et leur part dans le nombre total de migrants - à 70 %. Le nombre d'émigrés ukrainiens aux États-Unis, au Canada, en Europe occidentale et centrale et en Australie est passé de 0,7 à 1,6 million, et leur part dans le nombre total d'Ukrainiens partis vivre à l'étranger est passée de 13 % à 27 %. Plus de la moitié des migrants ukrainiens, plus de 3 millions vivent en Russie. Au cours de la première décennie de l'indépendance, leur nombre a augmenté. Ensuite, la Russie est devenue moins attrayante pour les Ukrainiens, alors leur nombre a diminué de près de 15%. L'agression militaire russe contre l'Ukraine a provoqué une nouvelle vague d'émigration, le nombre d'Ukrainiens vivant en Russie est passé de 3 à 3,3 millions.

Pour les statistiques il y a des données de passage des frontières. Les registres des passages frontaliers sont depuis un certain temps considérés comme l'une des principales sources d'information sur la migration. Aux points de départ / arrivée, il est possible de collecter des données sur le pays d'accueil, les finalités et la durée du voyage sur la base des données contenues dans les passeports, visas, permis de séjour ou de travail. Certains pays utilisent des formulaires statistiques spéciaux que les gens remplissent lorsqu'ils traversent la frontière.

Que peut-on faire maintenant pour améliorer la qualité des données migratoires**?** Le retard dans le recensement est considéré comme l'un des principaux obstacles à l'obtention de données démographiques de bonne qualité. Le dernier recensement a été effectué en 2001, et chaque année ses données deviennent de plus en plus obsolètes. Depuis le recensement, le Gosstat n'a communiqué que des estimations de population basées sur des données de natalité, de mortalité et de croissance (officielle) de la migration. Cela affecte non seulement la qualité des données démographiques, mais aussi des indicateurs tels que, par exemple, le PIB par habitant.

De retour chez eux, les travailleurs migrants ukrainiens se retrouvent sans travail et sans moyens de subsistance. Dans un proche avenir, les migrants ne pourront pas partir travailler en raison des restrictions à l'entrée introduites dans de nombreux pays du monde. De nombreux migrants qui ont décidé de rester à l'étranger après l'introduction de la quarantaine ont également rencontré de gros problèmes: quelqu'un a perdu son emploi, quelqu'un a eu des difficultés à prolonger un permis de travail ou à rester dans le pays. Beaucoup d'entre eux ont déclaré qu'ils ne pouvaient pas recevoir d'aide sociale.

L'Organisation internationale pour les migrations fournit une assistance humanitaire et psychologique aux personnes dans le besoin. Ceux qui sont prêts à démarrer leur propre entreprise sont aidés en termes de financement et d'équipement. La situation actuelle offre l'occasion de réfléchir à la manière de gérer plus efficacement les processus migratoires à la fois au niveau mondial et en Ukraine.

Les employeurs ukrainiens sonnent l'alarme: il n'y a pas assez de travailleurs dans les entreprises en raison de l'exode de la main-d'œuvre à l'étranger. Les responsables admettent que l'exode de la main-d'œuvre à l'étranger affecte déjà le rythme du développement économique en Ukraine et pourrait bientôt devenir l'un des principaux facteurs de risque. les entreprises manquent de main-d'œuvre qualifiée en raison de l'exode du personnel à l'étranger. La Confédération des employeurs d'Ukraine constate que les pays vers lesquels les travailleurs migrants se déplacent reçoivent une main-d'œuvre, pour la préparation de laquelle ils n'ont pas dépensé un centime. Et les employeurs ukrainiens sont déjà confrontés à une pénurie catastrophique de personnel.

Selon une enquête d'EY Ukraine 69% des entreprises interrogées pensent que le problème de la migration de main-d'œuvre affectera sérieusement leurs activités dans les 3 prochaines années, 43% des entreprises ont déjà des problèmes pour attirer et retenir des employés en Ukraine en raison de la migration de main-d'œuvre, 28 % des entreprises prévoient des risques liés à la migration de main-d'œuvre à l'avenir. Institut d'économie et de prospective de l'Académie nationale des sciences confirme que plus d'un tiers de ceux qui choisissent de travailler à l'étranger sont des personnes ayant suivi une formation professionnelle. Le nombre de diplômés des institutions professionnelles, c'est-à-dire, l'enseignement technique professionnel de l'Ukraine fonctionne pleinement pour l'exportation de la main-d'œuvre à l'étranger : en Pologne, Tchéquie, Allemagne.

Selon une étude de l'Organisation internationale pour les migrations, en 2016, un tiers des travailleurs migrants de longue durée de l'Ukraine avant le départ avaient des qualifications professionnelles élevées. La plupart des migrants ont un niveau d'éducation élevé: quatre sur cinq ont un enseignement supérieur ou professionnel. Mais à l'étranger leur travail est peu qualifiée. Les postes vacants les plus courants sont les ouvriers de la fabrication et de la construction: soudeurs, assembleurs, mécaniciens, serruriers, charpentiers, plâtriers, maçons. À l'étranger, le salaire des Ukrainiens est en moyenne quatre fois plus élevé qu'en Ukraine.

Selon les estimations de l'Institut d'économie et de prospective, l'exode de la population d'une telle main-d'œuvre pour l'économie ukrainienne représente une perte d'environ 40 milliards d'UAH par an.

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LA DÉPENDANCE DE LA SOCIÉTÉ MODERNE AUX GADGETS

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Chaque décennie génère de nouvelles passions, inclinations et addictions uniques. Dans le contexte de dépendances de longue date, de nouveaux intérêts quotidiens, plus pertinents, commencent progressivement à apparaître, soulignant par leur apparition précisément les domaines problématiques qui ne sont pas correctement ordonnés.

L'accès à tous les nouveaux types de "blogs", le développement continu de gadgets destinés spécifiquement à la composante de divertissement de la consommation publique, des difficultés dans les relations avec la famille et les amis, une baisse du niveau d'empathie - ce n'est qu'une partie d'une longue liste qui décrit le côté négatif de la formation de la jeunesse ukrainienne moderne dans la société. Tous ces facteurs provoquent l'émergence dans le contexte d'"anciens types" d'addictions (alcoolisme, tabac, consommation de drogues) de "nouveaux", qui prennent de l'ampleur de manière dynamique et se développent rapidement.

Dans ce cas, les dépendances agissent comme une sorte de moyen d'échapper au monde réel, de détourner temporairement l'attention des besoins vitaux, de la concurrence constante et de l'agitation de l'existence humaine. Comme on le sait, en Ukraine, les technologies d'information se développent assez lentement par rapport aux pays économiquement développés. Cependant, même maintenant, l'ampleur de la dépendance à Internet est si importante qu'elle est distinguée parmi un certain nombre de nouvelles dépendances qui affectent considérablement la formation de la jeunesse ukrainienne et de la société dans son ensemble.

Actuellement, une attention considérable est accordée à ce même problème à l'étranger. Ainsi, la scientifique américaine Kimberly Young (Young, 2000, 26) identifie 4 grands types d'addiction à Internet :

1. Dépendance informatique - la dépendance particulière au travail sur ordinateur (programmation, jeux, autres activités).

2. Navigation Web compulsive – la recherche compulsive d'informations dans des bases de données distantes.

3. Surcharge informationnelle – la propension aux jeux d'argent sur Internet, aux enchères en ligne, aux achats en ligne.

4. Dépendance à la cyber-communication – la dépendance à la communication dans les réseaux sociaux, les forums, les salons de discussion, les jeux de groupe et les téléconférences, ce qui peut conduire au remplacement de vrais membres de la famille et des amis par des membres virtuels.

L'un des fondateurs de l'industrie numérique moderne, Steve Jobs, a interdit à ses enfants d'utiliser l'iPad, et d'autres gadgets ont été interdits la nuit et le week-end. Malheureusement, il est presque impossible de se débrouiller seul avec Internet ! Chez l'adulte, de tels cas sont rares : un choc fort, un nouvel emploi intéressant et prestigieux, il faut tout d'abord un travail intensif avec un psychologue qui aidera à comprendre la cause de cette dépendance. Nous tous biologiquement orientés pour le plaisir d'une nouvelle information. Mais le fait est que lorsque l'information est systémique, elle est positive, et tout à fait une autre chose, lorsqu'elle charge négativement le cerveau. Dans la plupart des cas, Internet pour les jeunes sert à se divertir, trouver des informations et les utiliser. Déjà aujourd'hui, les gens de 25-35 ans ont fortement augmenté les plaintes au sujet de la distraction «de l'âge», de l'incapacité à se concentrer, de rassembler ses pensées, de lire des textes volumineux, d'avoir du mal à se souvenir de quelque chose. Les jeunes en croient la raison : le stress, la fatigue, le mauvais environnement. Cependant, la raison est claire : une personne est constamment "connectée à l'information". Aujourd'hui, la jeune génération de n'importe quel pays devient folle de la technologie numérique. Et en même temps, le "virus" de l'esprit numérique faible entre dans le monde et, malheureusement, ce n'est pas une blague, mais un diagnostic.

Bien sûr, Internet est une mesure progressiste aujourd'hui, si on l'utilise à bon escient, mais, malheureusement, pour de nombreux jeunes gens, cela n'est pas moins effrayant que la toxicomanie. Il est à noter que les éventuelles dépendances ne sont que des symptômes du fait que la vie publique est de moins en moins conforme à la vie humaine. Et il est assez sûr de croire que l'on peut guérir la maladie en ne se débarrassant que de certaines de ses manifestations. Il reste encore beaucoup de matières à analyser et à réfléchir pour les ukrainiens, mais pour contrer concrètement, il faut d'abord agir contre la société de consommation et cultiver la même approche d'activité chez les jeunes.

Aujourd'hui, il existe de nombreuses applications modernes pour les téléphones visant à améliorer la santé humaine - des programmes de surveillance du poids aux cours de yoga à part entière. Il existe des suppléments qui surveillent la fréquence et la gravité des maux de tête, vous rappellent de boire plus d'eau et analysent la qualité du sommeil. Par conséquent, nous seuls choisissons comment utiliser les « smartphones » et quel impact ils auront sur nos vies.

Bien sûr, Internet est une mesure progressive d'aujourd'hui, s'il est utilisé à bon escient. Cependant, malheureusement, pour de nombreux jeunes gens, ce n'est pas moins effrayant que la toxicomanie.

Il faut dire que toutes les addictions ne sont que des symptômes du fait que la vie sociale est de moins en moins conforme à l'image humaine. Et il est assez sûr de lui de croire qu'il est possible de guérir une maladie en ne se débarrassant que de certaines de ses manifestations. Il y a encore beaucoup de matière pour l'analyse et la réflexion du public ukrainien, mais pour une résistance concrète il faut d'abord agir en dépit de la société de consommation et cultiver la même démarche d'activité chez les jeunes.

En conclusion on peut dire que l'utilisation des de gadgets a ses inconvénients et ses avantages:

Inconvénients :

- Les gadgets sont nocifs pour la santé. Le rayonnement électromagnétique des gadgets modernes affecte négativement le système nerveux, altère la vision de l'utilisateur et développe une myopie; gâche la posture; lors de l'utilisation de la souris, il y a des problèmes de coordination des actions avec les mains. Les symptômes d'une utilisation prolongée des gadgets comprennent des maux de tête, des troubles du sommeil, la distraction et la faiblesse générale. Les psychologues notent que le syndrome informatique peut également affecter le développement de l'intelligence.
- Les nouveaux gadgets sont particulièrement addictifs, les gens sont prêts à économiser de l'argent, à contracter des prêts pour acheter un nouvel appareil à chaque fois.
- Les utilisateurs de gadgets sont accros aux likes et aux reposts aux réseaux sociaux, communiquent moins en direct et plus virtuellement, donc leur socialisation en souffre.

- Le facteur négatif d'anonymat empêche la formation de la personnalité et de l'identité.

Avantages:

- Les gadgets peuvent être très utiles pour l'éducation en ligne: suivre des cours, des master-classes; lors de la rédaction d'un article ou d'un résumé, la préparation d'une présentation électronique.
- En les utilisant seulement aux cas de besoin et avec la capacité de naviguer correctement sur le réseau, les gadgets aident à trouver de nombreuses applications utiles pour les études en différentes disciplines, des programmes basés sur des leçons vidéo.

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L'IMPACT DES PROBLÈMES ENVIRONNEMENTAUX SUR L'ÉTAT DE L'ÉCONOMIE DE L'UKRAINE

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Les problèmes environnementaux de l'économie constituent une grave menace pour le développement et la sécurité de chaque pays, ainsi que pour l'existence de l'humanité. Parmi eux, l'épuisement des ressources en terres et en eau , la pollution de l'environnement et la crise démographique sont particulièrement aigus. L'écologie concerne tout le monde, sans distinction de nationalité, de statut matériel et social. Tous s'accordent à dire que la nature et l'homme forment un tout. Mais l'activité humaine diminue et, dans certains cas, détruit même la capacité de l'environnement naturel à soutenir la vie humaine. Les indicateurs économiques et sociaux, ainsi que les vies humaines, reflètent des catastrophes naturelles destructrices et la menace d'une catastrophe mondiale, dont les aspects sont le changement climatique, la détérioration de la qualité de l'air, de l'eau et des sols. Pour l'Ukraine, la question de la sécurité environnementale devrait être une priorité.

Aujourd'hui, l'Ukraine est en crise u démographique, la population diminue rapidement. Les tumeurs cancéreuses, les maladies du système circulatoire sont causées par les conséquences d'accidents d'origine humaine et le niveau de pollution de l'environnement. La santé humaine dépend directement de l'environnement dans lequel il vit, par conséquent, en améliorant la situation écologique du pays, la mortalité à l'âge productif diminuera. Seulement ce qui est sans danger pour l'environnement, peut être économiquement avantageux. Aujourd'hui, l'économie ukrainienne n'est pas compétitive en raison de l'intensité énergétique et de la consommation de ressources. Par conséquent, elle doit être écologique, c'est-à-dire, faire la transition vers des sources d'énergie renouvelables, l'introduction de technologies innovantes et une approche rationnelle de l'utilisation des ressources. En menant des réformes dans ce sens, dans un proche avenir, il sera probablement possible de résoudre le problème du chômage et de l'exode de la population à l'étranger. Ce qui est important, c'est que l'Ukraine écologiquement sûre devienne un pays compétitif et attractif pour les investissements. L'humanité progressiste est arrivée à la conclusion que seule la coexistence harmonieuse de l'économie, de l'écologie et de la sphère sociale offrira une opportunité pour une vie de qualité aux générations actuelles et futures.

Les conditions optimales pour la survie de l'humanité fluctuent dans des limites étroites des valeurs de la composition chimique et physique de l'habitat naturel. Les changements d'indicateurs affectent de manière significative les caractéristiques du niveau de vie d'une personne et les possibilités de développement économique de la société. L'impact des problèmes environnementaux sur l'économie est considérable:

1. La diminution des ressources foncières et la diminution de leur qualité se reflètent dans la production alimentaire.

2. Le problème de l'inadéquation entre la demande et l'offre de ressources énergétiques s'est mondialisé dans la seconde moitié du 20-e siècle, affectant particulièrement les pays aux économies sous-développées.

3. La diminution de la superficie forestière entraîne une diminution des approvisionnements alimentaires, des ressources énergétiques et d'autres produits forestiers, ce qui affecte les économies de nombreux pays. La restauration et la protection des forêts est l'un des aspects les plus importants des activités environnementales dans le monde. Des millions de dollars sont dépensés chaque année pour ces besoins, mais seulement 1 million d'hectares de forêts perdues sont restaurés sur 11 millions d'hectares. Les pertes dues à la perte de forêts s'élèvent chaque année à 5 000 milliards de dollars. Les processus de changement climatique, la désertification, l'accumulation de déchets ne font que renforcer la tendance globale négative.

4. Les mesures visant à réduire la pollution de l'air sont financièrement coûteuses. Ils comprennent le développement et la mise en œuvre de processus de haute technologie pour réduire la quantité d'émissions et la transition de la population vers l'utilisation de biens et services à faibles émissions. Le coût de ces mesures varie de 1 à 3,5% du PIB mondial, mais si elles sont mises en œuvre avec succès, le PIB augmentera à l'avenir. La catastrophe de Tchernobyl a entraîné une contamination radioactive du territoire ukrainien. [1]

5. La croissance économique est inextricablement liée à la croissance de la consommation d'eau industrielle. 40 % de la population mondiale en manque déjà. Si des mesures ne sont pas prises pour l'utilisation rationnelle, la protection et la purification des sources d'eau, ce chiffre passera bientôt à 65%. La difficulté à résoudre ce problème réside dans le coût élevé et la faible rentabilité économique. Environ 80% des habitants de la planète sont des résidents des pays en développement, ⅓ d'entre eux souffrent régulièrement de la faim. Une nouvelle croissance démographique de 90 % au cours des 10 prochaines années sera due à la croissance des résidents dans ces pays. Pour rapprocher leur niveau de vie des standards des pays développés, il est nécessaire de multiplier par 5 et 10 respectivement la production d'énergie et de biens.

Les problèmes économiques résultant de la crise écologique sont typiques de tous les pays, quel que soit leur niveau de développement. Le respect de la nature doit être basé sur les activités de préservation des ressources naturelles et de protection de l'environnement. Il est important non seulement d'éliminer les conséquences de la pollution et de la destruction, mais aussi d'utiliser dans un premier temps des technologies qui n'auront pas un effet aussi néfaste sur la nature.

En Ukraine, au niveau législatif, il est nécessaire d'approuver une stratégie de développement durable, alors l'État aura une vision holistique et une cohérence dans le développement du pays. Après tout, l'absence d'une stratégie de développement à long terme non seulement ralentit l'Ukraine, mais crée également un chaos dans la gestion, causant ainsi une perte à l'État. Si la conscience nationale est basée sur le fait qu'un environnement écologiquement propre est une condition pour une société prospère et un pays compétitif, alors l'Ukraine a certainement une perspective.

Les entreprises n'ont pas de motivation économique suffisante pour introduire de nouvelles technologies et, par conséquent, réduire l'impact négatif sur l'environnement. Ni les entreprises nationales ni le gouvernement ne sont encore en mesure de se permettre des dépenses importantes pour l'environnement. Pour résoudre ces problèmes, il est nécessaire non pas tant de finaliser des lois environnementales spécifiques, mais de réformer le système dans son ensemble. [1]

L'Ukraine doit devenir un pays où chacun de ses habitants est fier de sa participation personnelle à la renaissance de l'Ukraine et à sa formation comme l'un des pays les plus développés du monde. Cela est possible à l'aide d'un principe spirituel commun qui unira la nation et dirigera l'énergie des gens dans un seul canal unifié- la création et le vrai patriotisme.

La société se développe et a besoin de nouvelles ressources, dont le besoin n'est plus possible de pourvoir de manière simple et extensive. La question est probablement un changement de mentalité et des solutions non standard. Les mots d'Einstein sont appropriés dans ce contexte : "Vous ne pourrez jamais résoudre le problème qui s'est posé si vous gardez la même pensée et la même approche qui vous ont conduit à ce problème." [2].

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LA PRODUCTION CASHER EN UKRAINE COMME FACTEUR DE LOYAUTÉ NATIONALE

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Le système alimentaire casher est le plus ancien trésor soigneusement préservé de la sagesse du peuple juif. L'un des principaux objectifs de la cacherout : une alimentation bien pensée, rationnelle et saine. Seulement un produit utile et respectueux de l'environnement qui s'harmonise pleinement avec le corps humain et conforme à toutes les lois de la cacherout est autorisé [1].

Le marché de produits casher est devenue une magnifique entreprise. On peut citer le marché des USA dont le chiffre d'affaires peut être fixé selon de nouvelles estimations de 50 à 150 milliards de dollars. Selon le magazine "Les actualités de l'agroalimentaire", le marché de produits casher est en pleine expansion, conquérant de larges segments de survivants non juifs. Selon les données du magazine "Kosher Today", il y a 11 millions d'Américains qui choisissent des produits selon le principe du casher, parmi lesquels un million seulement representent des Juifs en réalité.

Les produits casher ne sont pas seulement consommés par les Juifs pieux, mais aussi par d'autres catégories de consommateurs: les végétariens, les adventistes du septième jour, les musulmans, les personnes allergiques au lactose ou au gluten [2].

Les producteurs ukrainiens représentent une sélection suffisante de produits casher, bien que le segment des consommateurs soit étroit. Les produits casher sont déterminés par le Comité pan-ukrainien de la Cacherout et marqués d'une étiquette avec un label "exsher".

Des produits casher sont fabriqués en Ukraine, en particulier, par des usines de production de produits en conserve: la conserverie Gaysinsky (région de Vinnytsia), la conserverie d'Uman (région de Tcherkassy), "Nizhyn", "Véress", "Tchumak", la conserverie "Glibov " de Berdyansk, les usines de production de boissons alcoolisées "Olympus" et "Sarmat" (Donetsk), les usines de production de produits laitiers "Galacton" (Kiev), l'usine laitière d'Ovruch, les confiseries "Friandises de Zhytomyr", "Roshen". Le fromage casher est apparu dans la gamme de produits de la marque "Komo". SARL "Technocom" a produit des vermicelles casher "Mivina".

L'usine de boulangerie et de confiserie de Donetsk exporte des beignets, bagels casher et prianiks, une sorte de pain d'épices de Toula aux États-Unis et en Israël.

En 2005, le Comité Kashrut panukrainien, dirigé par le grand rabbin du Donbass Yitzhak-Pinhas Vyshetsky, a produit le premier lot de vin casher - 20 000 bouteilles (Merlot sec et demi-doux) sur la base de la Compagnie viticole de Crimée [3].

Les spécialistes du marketing pensent que bien que les produits religieux aient une valeur plus élevée que les autres, cibler un tel segment de marché étroit est discutable en termes de profit. Mais ses produits permettent au fabricant de se démarquer de la masse générale des concurrents. De plus, ces produits sont conçus pour des personnes en bonne santé car ils ne contiennent pas de conservateurs et sont fabriqués à partir de matières premières de haute qualité.

Cependant, le développement réel du marché casher est assez lent. De plus, la situation s'est compliquée par les récents événements du Donbass, où se trouvait une importante communauté juive et concentrait une part importante de la production casher, ainsi que l'annexion de la Crimée (le vin casher était produit par l'usine «Massandra»). Cela n'a conduit qu'à des pertes de production. Dans d'autres régions du pays, il existe des industries qui pourraient rendre ces pertes moins perceptibles.

La question est toujours d'actualité. Cela a été prouvé, notamment, dans des articles parus en 2015-2017 dans les publications telles que "Forbes Ukraine". Par exemple, les auteurs de l'article "Kosher Ukraine : comment surmonter le déficit" M. Ormotsadze a exprimé son point de vue avec le Grand Rabbin de Kiev et d'Ukraine Moshe Reuven Asman sur la pénurie de produits casher sur le marché. Ils déterminent aussi les perspectives de ce marché : il existe de bonnes études sur la religion de la consommation, sa place dans les relations de consommation modernes (A. Kudinov), l'impact de la religion sur l'entrepreneuriat dans les puissances non-mondiales (I. Vovk), et d'autres. Mais la question: dans quelle mesure le marché ukrainien des produits casher est-il prometteur et dans quelle mesure une telle production est-elle commercialement rentable pour les producteurs ukrainiens reste inexplorée.

Dans les matériaux analytiques des médias, la question de la production de produits casher par les producteurs ukrainiens est en discussion. Pour cela, il y a des arguments suivants:

- l'importance du marché des produits casher et son taux de croissance dans les pays de l'Union européenne et aux USA;
- la possibilité de se concentrer non seulement sur les consommateurs religieux, mais aussi sur les partisans d'une alimentation saine;
- la possibilité d’emporter les produits aux marchés de Europe, USA, Canada et autres pays, en tant que le producteur bénéficie des accords avec des partenaires étrangers.

On ne peut pas rejeter ces arguments. Selon les informations données par M. Palanyca, USA chaque année produit des produits casher sur 130 millions de dollars, avec une tendance constante d'augmentation de 15 % chaque année. La demande de produits casher est en augmentation au Brésil, en Nouvelle-Zélande, en Afrique du Sud, Japon, Mexique, Chili, Costa Rica et Espagne. (Palanitsa, 2016).

Mais la seconde recherche de marketing des facteurs externes dans le marché casher ukrainien a révélé :

- la réduction du nombre de Juifs en Ukraine;
- la complexité des exigences pour la technologie tenant compte que tous les fournisseurs de matières premières, de produits semi-finis et même d'équipements (par exemple, fours, mélangeurs, etc.) devraient également avoir des licences de cacherout.
- des phénomènes de crise dans l'économie ukrainienne qui affectent négativement le pouvoir d'achat de la population locale (les produits casher, comme tous les produits bio, sont en catégorie de prix).

Ces arguments permettent de conclure que le marché casher en Ukraine aujourd'hui n'a pas de grandes perspectives. Certain opportunités peut fournir l'orientation vers les pèlerins hassidiques, mais en même temps le problème général de infrastructure sous-développée qui peut fournir aux hassids des conditions d'hébergement confortables en Ukraine reste toujours. C'est la raison de petit nombre de pèlerins et de leurs court séjour en Ukraine. Ainsi, dans les années à venir, pour la promotion des produits casher en Ukraine, on ne peut utiliser que des produits locaux de micromarketing, s'adapter aux besoins des groupes locaux: les membres de la communauté religieuse, les visiteurs de certains magasins (par exemple, dans les synagogues), etc.

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INNOVATIONEN UND NEUE TECHNOLOGIEN

DER EINSATZ VON DROHNEN IN DER LANDWIRTSCHAFT

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Drohnen und Smartphones haben sich zu Werkzeugen des täglichen Gebrauchs für Landwirte entwickelt. Heutzutage nutzen fortschrittlich denkende Landwirte Industriedrohnen für eine Vielzahl von Zwecken – von der Schädlingsbekämpfung bis zum Pflanzenmonitoring. Die rasante Entwicklung der Software macht Drohnen weniger teuer und autonomer, aber nur wenige Landwirte setzen Drohnen aktiv ein [1].

Drohnen in der Landwirtschaft führen solche Operationen durch:

Luftaufnahme – zur Identifizierung von kahlen Stellen, Tod der Ernte nach der Exposition gegenüber natürlichen Faktoren und anderen Mängeln, die eine rechtzeitige Beseitigung benötigen. Luftaufnahmen von der Drohne weit überlegen Satellitenbilder in seiner Detailgenauigkeit, aufgrund der geringen Flughöhe [2].

Videoaufnahme – die Leistung des unbemannten Flugzeugs bei der Videoaufnahme erreicht 30 km^2 in 1 Stunde, was die zeitlichen und finanziellen Kosten im Vergleich mit der Nutzung der Landtechnik wesentlich reduziert [2].

3D Modellierung – ermöglicht es Ihnen, feuchte oder trockene Gebiete, Unebenheiten des Bodens zu bestimmen, richtig Pläne und Karten der Befeuchtung oder Entwässerung des Bodens, Rekultivierung von Grundstücken oder Landgewinnung zu erstellen [2].

Wärmebildtechnik – es wird unter Verwendung des gesamten Spektrums der Infrarotstrahlung durchgeführt: Nah-, Mittel- und Fernbereich. Die Studie ermöglicht es, den Zeitpunkt der Differenzierung von Wachstumspunkten zu bestimmen, was sich direkt auf den Ertrag und die Erhaltung der produktiven Eigenschaften von Pflanzen unter Beibehaltung der erblichen Möglichkeiten der Sorte auswirkt [2].

Laser-Scan – Es wird verwendet, um Gelände in schwer zugänglichen oder unzugänglichen Bereichen zu analysieren. Mit dieser Methode erhalten Sie ein genaues Modell mit hoher Dichte mit detaillierter Darstellung des Geländes auch bei der Arbeit unter den Bedingungen der starken Verdickung der Anpflanzungen [2].

Spritzen – dank der Nachrüstbarkeit werden Drohnen zum Punktsprühen von Pflanzen und Obstbäumen eingesetzt. Dieser Ansatz ermöglichte es den Landwirten, nur kranke Pflanzen zu verarbeiten, ohne dass Chemikalien auf den Rest der Ernte gelangen [2].

Samen pflanzen – praktiziert vor relativ kurzer Zeit und noch nicht weit verbreitet, aber einige Unternehmen setzen Experimente, Pflanzen Samen von Pflanzen mit Drohnen. Im Wesentlichen experimentieren die Hersteller mit spezifischen Systemen, die programmiert sind, Samen in den vorbereiteten Boden zu streuen. Diese Technologie hilft, die Notwendigkeit einer persönlichen Präsenz für die Pflanzung von Pflanzen in einem ausgewählten Gebiet zu minimieren, was manchmal zu einer kostspieligen und energieaufwendigen Aufgabe wird. Diese gleiche Drohnentechnologie kann auf viele Arten von landwirtschaftlichen Betrieben angepasst und angewendet werden, wodurch Landezeiten und Lohnkosten reduziert werden [2].

Und auch Drohnen lösen folgende Aufgaben: Bewertung der Qualität der Pflanzen und Identifizierung von Schäden oder Tod von Pflanzen; Bestimmung der genauen Fläche der toten Kulturen; Prüfung und Bestandsaufnahme von Grundstücken; Identifizierung von Pflanzfehlern und Problemzonen; Analyse der Wirksamkeit von Maßnahmen zum Pflanzenschutz; Überwachung der Konformität von Struktur und Fruchtfolge Pläne; Identifizierung von Abweichungen und Verstößen, die während der agrotechnischen Arbeiten gemacht wurden; Analyse des Reliefs und Erstellung einer

Karte der Vegetationsindizes PVI, NDVI; sammeln von Informationen für den Sicherheitsdienst, einschließlich der Identifizierung der Tatsache der illegalen Weide auf den Feldern; die Begleitung des Baus der Systeme der Melioration; Überwachung der Lagerung von Hackfrüchten in Haufen; Einführung von Trichogramma; Erstellung von Karten zur differenzierten Düngung und Besprühung von Feldern; zählen von Triebe und biologischen Erträgen [2].

Drohnen werden von Jahr zu Jahr in der Landwirtschaft immer beliebter. Moderne Smartphone-Apps machen Drohnen halbautonom und damit viel einfacher zu bedienen. Der Bauer markiert das benötigte Grundstück auf seinem Smartphone, alle anderen Aufgaben erledigt die Drohne selbstständig [1].

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BEWERTUNG DER ENTWICKLUNG DES AUSSENHANDELSUMSATZES DER UKRAINE MIT DER EU IN DEN JAHREN 2010-2020

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Die Beziehungen der Ukraine zur Europäischen Union im Bereich des Außenhandels haben im Jahre 2014 nach der Unterzeichnung des Assoziierungsabkommens an Bedeutung gewonnen, da die Ukraine einer der weltweit führenden Getreideexporteure und einer der zehn größten Lebensmittelexporteure ist sowie sehr große Chancen im Agrarsektor hat. Von vielen Forschern wird festgestellt, dass die Ukraine in den letzten Jahren die Ausfuhr ihrer Agrarprodukte und Lebensmittel in die EU steigert [1]. Die Öffnung des europäischen Marktes als eines der größten Handelsmärkte der Welt gibt der Ukraine die Möglichkeit, Handelsaktivitäten auf dem Territorium von Ländern mit hoher Kaufkraft durchzuführen.

Ziel der Veröffentlichung ist es, die Dynamik des Außenhandels der Ukraine mit den EU-Staaten in den Jahren 2010-2020 zu analysieren sowie die Einflussfaktoren auf die Schwankungen entsprechender Indikatoren zu beleuchten.

Die Handels- und Wirtschaftsbeziehungen der Ukraine mit europäischen Ländern sind einer der Hauptvektoren des ukrainischen Außenhandels, da die Europäische Union einer der wichtigsten Handelspartner der Ukraine ist.

Um die Entwicklung des Außenhandels der Ukraine mit EU-Staaten genauer einschätzen zu können, muss die Dynamik der Außenhandelsumsätze über einen längeren Zeitraum betrachtet werden (Abb. 1).

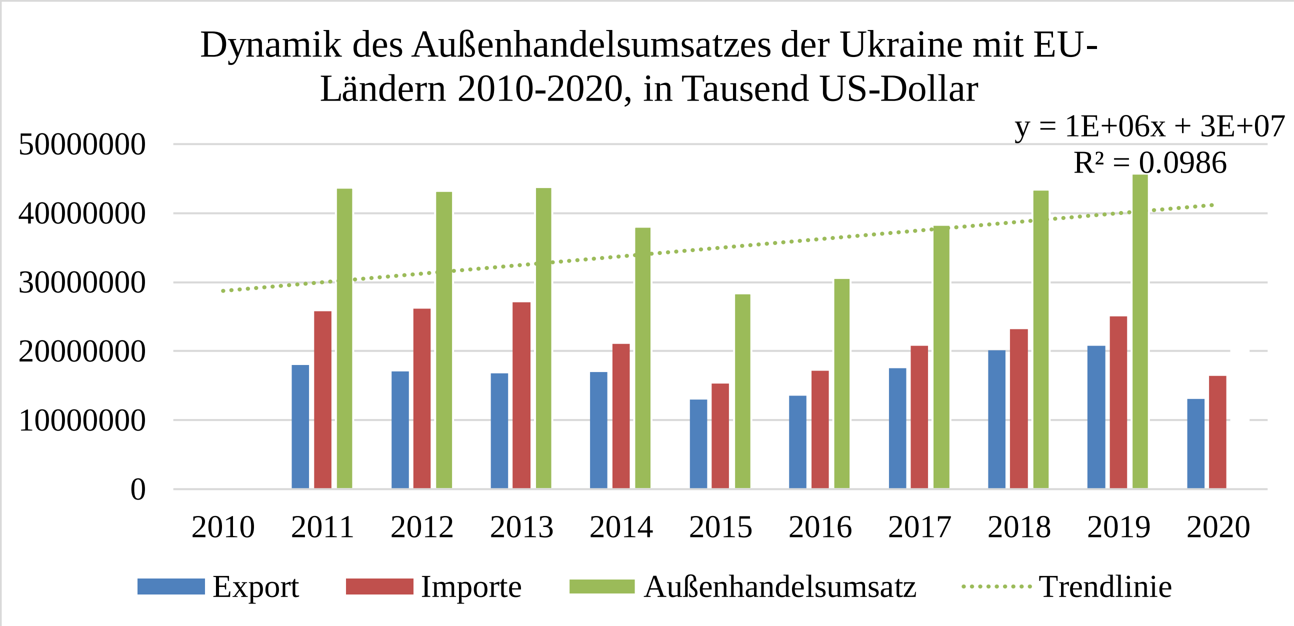

Abb.1 Dynamik des Außenhandelsumsatzes der Ukraine mit EU-Ländern in den Jahren 2010-2020, in Tausend US-Dollar

Quelle: zusammengestellt von der Autorin in Anlehnung an [2]

Der Grafik zufolge lässt sich feststellen, dass die Dynamik der Außenhandelsumsätze der Ukraine mit den EU-Staaten im Allgemeinen tendenziell schwankt. Die niedrigste Rate wird im Jahr 2010 beobachtet, doch 2011 stieg die Rate stark, und zwar um 135980%. 2013 erreichte die Rate der Importtransaktionen für den gesamten analysierten Zeitraum ihr Maximum – 27046505,1 Tausend US-Dollar. Im Zeitraum 2015-2016 sehen wir einen starken Rückgang des Außenhandelsumsatzes, nämlich um 26%, was mit der Annexion der Krim und der Teile der Regionen Donezk und Luhansk verbunden ist. Doch schon 2017-2019 können wir einen Anstieg des Volumens von 25 % bis 49 % beobachten, was erneut auf die Intensivierung des Außenhandels der Ukraine mit der EU hinweist. Im Allgemeinen stieg der Außenhandelsumsatz im Jahr 2019 im Vergleich zu 2011, als die Ukraine entschlossen mit dem Außenhandel mit der EU begann, um 4,6% und erreichte seinen Höchstwert für den gesamten Zeitraum.

Auf Grund der Analyse der Entwicklungsmuster des Außenhandels der Ukraine und der Faktoren, die sie veranlasst haben, ist es möglich, die wichtigsten Perspektiven für seine weitere Entwicklung zu bestimmen. Insbesondere wird sich die Struktur der Exporte inländischer Güter in den kommenden Jahren nicht wesentlich ändern. Auch die Importstruktur wird sich voraussichtlich nicht wesentlich ändern. Die Entwicklung des Außenhandels der Ukraine in naher Zukunft wird von der ausgewogenen Regierungspolitik in Bezug auf das Stimulieren der eigenen Produktion, Reduzierung von Krisen, Überwindung der Arbeitslosigkeit, Stärkung der Landeswährung abhängen. N.Neprjadkina betont, dass «ein wirksames Mittel zur Erweiterung der Exportgeographie die Unterzeichnung von Freihandelsabkommen mit einzelnen Ländern und regionalen Integrationsgruppen sein sollte» [3].

Zusammenfassend sei betont, dass die langfristige Entwicklung der Beziehungen zur EU angesichts des geopolitischen, geoökonomischen und historischen europäischen Status der Ukraine eine der Prioritäten der ukrainischen Außenwirtschaftspolitik bleiben sollte. Die Offenheit der ukrainischen Wirtschaft lag 2019 bei 30 % und nimmt tendenziell zu. Der zyklische Charakter des Außenhandels bedeutet nicht das Verschwinden des Interesses an der Zusammenarbeit, im Gegenteil, trotz der Feindseligkeiten im Land bleibt die Strategie der Ukraine in der EU unverändert. Die Zusammenarbeit mit EU-Ländern wird zusätzliche Einnahmen, Erhöhung des Verbrauchs von Gütern, die die Ukraine nicht produzieren kann, sowie knappe Ressourcen, Innovationen, neue Technologien und Erfahrungen anziehen.

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GRUPPIERUNG DER EXPORTGÜTERSTRÖME DER UKRAINE NACH ÄNDERUNGSRICHTUNGEN

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Gegenwärtig gibt es reale Perspektiven für die Schaffung in der Ukraine einer wirklich offenen Wirtschaft, wirksame Integration des Landes in die Weltwirtschaft. Die aktive Nutzung außenwirtschaftlicher Faktoren trägt zur Überwindung der negativen Prozesse in der Wirtschaft und zur Weiterentwicklung der Marktbeziehungen bei. Das Exportpotenzial der Ukraine wird durch die Menge von Gütern und Leistungen, die im wirtschaftlichen und sozialen Bereich produziert und mit maximalem Nutzen für das Land auf dem Weltmarkt verkauft werden können, bestimmt.

Ziel der vorliegendenVeröffentlichung besteht darin, statistische Daten zu analysieren und die Besonderheiten der Veränderungen der Exportströme der Ukraine zu untersuchen.

Gemäß den Daten zur Warenstruktur der Außenhandelsexporte der Ukraine für den Zeitraum 2019-2020 (Tabelle 1) gehören zu den wichtigsten Exportgütern der Ukraine solche Warengruppen wie Getreide, Getreidefertigprodukte, Erz, Fisch, Fertignahrungsmittel, Getränke, Tabakwaren, Düngemittel und Glaswaren. Sie widerspiegeln die Rekordmengen (um 12% gestiegen) und zeigten weiterhin eine hohe Wachstumsdynamik. Diese Produktgruppen befinden sich in der Tabelle im grünen Bereich und weisen sehr günstige Wachstumsraten auf. Genug große Liste ukrainischer Produkte der Hütten-, Chemie-, Maschinenbauindustrie und Landwirtschaft ist für das Ausland leichter zugänglich geworden, aber die Ukraine zeichnet sich durch geringe Exporte von High-Tech-Gütern und -Dienstleistungen aus [4, 5].

Tabelle 1. Warenstruktur der ukrainischen Exporte 2019-2020, in Millionen US-Dollar*

Waren	Exporte, Mio. $	
	2019	2020
Getreide	835,6	928,6
Getreidefertigprodukte	22,8	24,7
Mehl und Getreide	18,9	19,2
Öl und Fette	465,7	471,4
Ölsamen	112,5	52,2
Kraftstoff und Strom	87,4	69,05
Erz	305,6	338,7
Eisenmetalle	758,4	662,1
Maschinen und Mechanismen	190,1	181,2

Kraftverkehr	12,7	9,4
Fleisch- und Fischprodukte	1,7	1,7
Fisch	1,8	2,4
Milchprodukte	19,4	14,1
Eier	15,2	6
Zucker	26,1	22,6
Honig	10,8	11,2
Obst und Nüsse	23,9	19,4
Gemüse	13,28	10,4
Gemüseprodukte	19,2	16,7
Fertiggerichte	12,2	15,4
Getränke	15,4	17,7
Tabakwaren	28,3	46,4
Pharmazeutische Produkte	23,7	24,2
Düngemittel	6,5	21,4
Kunststoffe	54,85	47,1
Gummi und Kautschuk	8,6	5,7
Holz und Holzprodukte	129,7	111,5
Möbel	58,1	50,3
Papier und Pappe	32,2	32,8
Kleidung & Accessoires	45,78	34,05
Schuhe	17,8	14,1
Lederwaren	4,9	2,9
Glaswaren	15,8	18,6

Erstellt von der Autorin auf der Grundlage von Daten des Staatlichen Zolldienstes und des Staatlichen Statistikdienstes [1, 2]

**: grünes Feld - Volumenwachstum; gelbes Feld - Volumen änderten sich innerhalb nicht signifikant (3 - 4%); rotes Feld - Volumenreduzierung.*

Laut Tabelle 1 nimmt der Anteil der Exporte von Produktgruppen wie Ölsamen, Kraftstoffe und Elektrizität, Eisenmetalle, Maschinen und Ausrüstungen, Fahrzeuge, Milchprodukte, Eier, Zucker, Obst und Nüsse, Gemüse, pflanzliche Produkte, Kunststoffe, Gummi und Kautschuk, Holz und Holzprodukte, Möbel, Kleidung und Accessoires, Schuhe und Lederwaren im Zeitraum 2019-2020 ab. Diese Produktgruppen liegen im roten Feld, da sie einen deutlichen Rückgang der Exporte aufweisen. Der kritische Rückgang der Exporte betrug in der betrachteten Zeitperiode 17%. Der Rückgang des Exports bei diesen Gruppen ist hauptsächlich auf folgende Ursachen zurückzuführen: rückläufige Binnennachfrage in ausländischen Staaten, interne (sinkende Produktion im Zusammenhang mit den Feindseligkeiten in der Ostukraine) und externe Faktoren (Abwertung des Euro gegenüber dem US-Dollar, niedrigere Preise für Rohstoffe), Übereinstimmung der Waren mit den GOST-Standards, Verschlechterung der Qualität bestimmter Waren. Der Rückgang der metallurgischen Exporte ist mit dem Nachfragerückgang auf den Auslandsmärkten und niedrigeren Weltmarktpreisen verbunden. Auch das Wachstum der Eisenerzexporte hat sich aufgrund der rückläufigen Nachfrage in den europäischen Ländern deutlich verlangsamt. Trotz der wachsenden Dynamik des Angebots an Mineraldüngern und Glaswaren gingen die Exporte chemischer Produkte aufgrund der sich verschlechternden externen Preisbedingungen zurück. Der Export von Maschinenbauprodukten ging insbesondere aufgrund rückläufiger externer Aufträge für Lieferung von Eisenbahnwaggons zurück.

Ein unbedeutender Rückgang der Exporte zeigte sich 2020 im Vergleich zum Jahr 2019 bei den Waren, die im gelben Feld liegen (Anstieg um 1%), und zwar bei solchen Produktkategorien wie Mehl und Getreide, Öl und Fette, Fleisch- und Fischprodukte, Honig, Arzneimittel, Papier und Pappe.

Zusammenfassend ist es zu unterstreichen, dass entsprechend der durchgeführten Analyse die Warenstruktur des Außenhandels der Ukraine mehr als 33 Warengruppen umfasst, unter denen Getreide (28 %), Öl und Fette (14 %), Erze (10 %) und Tabakwaren (3%) überwiegen. Für die Ukraine ist es wichtig, die Exportstruktur zu optimieren, die Qualität der Exportprodukte zu verbessern und die wirtschaftliche und technologische Effizienz der Exportproduktion zu steigern. Von Bedeutung ist es auch, mit einzelnen Ländern bilaterale Abkommen zur Handels- und Wirtschaftskooperation abzuschließen [3]. Außerdem, um die strukturelle Optimierung des Exports anzuregen, muss erzielt werden, dass alle Währungs-, Zoll-, Steuer- und Außenwirtschaftsgesetze der Ukraine den Hersteller auf den Export moderner und fortschrittlicher Maschinen und Ausrüstungen ausrichten.

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FREIWILLIGENARBEIT IN DEUTSCHLAND

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Volunteering - Das heißt auf Deutsch Freiwilligenarbeit oder Ehrenamt. Es ist eine Arbeit, bei der du kein Geld verdienst. "Freiwillig" bedeutet "aus freiem Willen heraus". Du machst etwas, weil du es gerne magst, nicht wegen Geld, Karriere, oder wegen deiner Eltern. Freiwilligenarbeit in Deutschland ist sehr beliebt [1]!

Ein freiwilliger Einsatz in einem anderen Land ist eine bereichernde Lebenserfahrung. Es gibt viele Möglichkeiten für junge Leute aus aller Welt, sich in Deutschland zu engagieren. Das Angebot reicht von Sozial- und Umweltprojekten bis zu politischer Bildung [2].

Eine Freiwilligenarbeit in Deutschland kann ein paar Wochen dauern, oder ein paar Monate. Bei einem Short-Term Projekt arbeitest du 1-4 Wochen in einem Projekt. Es ist ideal, wenn du wenig Zeit hast und gerne mal eine Arbeit ausprobieren möchtest. Du bekommst normalerweise für diese Zeit einen Platz zum Schlafen und etwas zu Essen. Bei diesen längeren Projekten arbeitest du 1-12

Monate in einem Projekt. In dieser Zeit lernst du richtig viel und hast am Ende natürlich viel mehr Erfahrung, als bei einem kurzen Projekt [1].

Sie können auch studieren und sich in Ihrer Freizeit ehrenamtlich engagieren. In jeder Stadt gibt es soziale Projekte. Sie können dort flexibel für ein paar Stunden pro Woche mithelfen oder an einer bestimmten Veranstaltung mitarbeiten [1]. Für Mid-Term und Long-Term Projekte gibt es sehr viele Organisationen. Die bekanntesten sind: AFS, IJGD, IBG. Diese Agenturen bringen Freiwillige und Projekte zusammen. Sie helfen dir bei der Bewerbung und bei der Organisation [1]. Für Schulabsolventen bis zum Alter von 27 gibt es Jahresprogramme: Beim Freiwilligen Sozialen Jahr (FSJ) helfen sie in Kindergärten, Kultureinrichtungen, Sportvereinen, Krankenhäusern oder Pflegeheimen. Es ist eine gute Vorbereitungen für Berufe im sozialen Bereich. Wer sich für Natur, Umweltschutz und Landwirtschaft interessiert, kann ein Freiwilliges Ökologisches Jahr (FÖJ) absolvieren [2].

Der soziale Bereich der Freiwilligentätigkeit umfasst Tätigkeiten in einem Krankenhaus, einer Kindertagarten, einem Pflegeheim, mit Menschen mit Behinderungen, mit Flüchtlingen [2]. Die Ökologischer Bereich umfasst Freiwilligenarbeit auf einem Bauernhof, einem Markt, einem Bunde Naturshutz [2]. Der Kulturbereich umfasst Aktivitäten im Theater, Kulturzentrum, Museum, einzelne Veranstaltungen (z.B. Festivals, Konzerte) [2].

Eine der größten deutschen Freiwilligenorganisationen ist die Aktion Sühnezeichen Friedensdienste. Sie arbeitet vor allem mit Organisationen in Ländern zusammen, die unter dem Terror des Nationalsozialismus gelitten haben, bietet aber auch Friedensdienste in Deutschland. Ziel ist Aussöhnung und Verständigung zwischen Kulturen und Religionen [2].

Musiker ohne Grenzen e.V. sucht engagierte Musiker_innen, die gerne für mindestens drei Monate in die weite Welt ziehen, musizieren, Sozialprojekte unterstützen und musikalisches Wissen weitergeben möchten. Der Verein ist noch recht jung, aber es gibt für alle etwas zu tun. Melden kann man sich auch ohne Fremdsprachenkenntnisse [3]! Die Europäische Kommission fördert Freiwilligendienste in gemeinnützigen Einrichtungen in Europa. Teilnehmen können junge Menschen zwischen 17 und 30 aus Staaten der EU und Erasmus-Partnerländern. In der Stellenbörse gibt es viele Projekte in Deutschland [2].

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METHODEN DER KONTROLLE DER MEHLQUALITÄT FÜR BROTPRODUKTION

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Brot ist eines der wichtigsten Lebensmittel, das die Menschen jeden Tag verbrauchen. Dieses Lebensmittelprodukt wird durch das Backen des Teigs erhalten, der mindestens aus Mehl und Wasser besteht. Meistens wird noch Salz hinzugefügt sowie auch Backpulver benutzt, solches wie Hefe. Für Brotproduktion benutzt man Weizenmehl und Roggenmehl, seltener Maismehl, Gerstenmehl und anderes.

Eine wichtige Voraussetzung für die hochqualitative Brotproduktion ist die Übereinstimmung der Qualität der Rohstoffe mit den Anforderungen der normativen Unterlagen. So müssen die Mitarbeiter der Bäckereien die Qualitätskontrolle der erworbenen Rohstoffe durchführen, in erster Linie des Mehls.

Ziel dieser Veröffentlichung ist Methoden der Kontrolle der Mehlqualität für Brotproduktion zu beleuchten.

Analyse der Qualität von Rohstoffen führen Mitarbeiter des Betriebslabors in der Übereinstimmung mit den Methoden, die in den vorgeschriebenen Normen vorgestellt sind, durch.

Die Kontrolle der Mehlqualität wird nach verschiedenen Indikatoren mit organoleptischen und physikalisch-chemischen Methoden durchgeführt. Zu den allgemeinen Indikatoren gehören Geschmack, Geruch, Farbe, Knirschen beim Kauen, Feuchtigkeit, Grobheit der Mehlmahlung, Aschegehalt, Verunreinigungsgehalt, Schädlingsbefall, Menge an Metallverunreinigungen. Zu den Sonderindikatoren gehören die Menge und Qualität von Rohgluten.

Entspricht das Mehl hinsichtlich der organoleptischen Eigenschaften (Geschmack, Geruch und Farbe) nicht den Anforderungen der Norm, ist es nicht lebensmitteltauglich und es erfolgt keine weitere Bewertung.

Der Geruch von Mehl bestimmt man meist in einer kleinen (5-10 g) Mehlmenge, die durch den Atem leicht erwärmt wird. Der Geschmack wird durch das Kauen einer kleinen Menge (2-3 g) Mehl bestimmt. Gutes Mehl hat einen schwach ausgeprägten, angenehmen, leicht süßlichen Geschmack. Saurer, bitterer oder offensichtlich süßer Geschmack sowie das Vorhandensein von Fehlaromen sind in Mehl nicht erlaubt. Mehl jeglicher Art sollte beim Kauen kein Knirschen auf den Zähnen verursachen. Das Knirschen wird durch das Eindringen von zerkleinerten mineralischen Verunreinigungen in das Mehl verursacht.

Mehlfarbe wird visuell bestimmt. Mehl jeder Sorte hat seine eigene Farbe. Abnormale Farbveränderungen des Mehls können durch einen erhöhten Kleiegehalt, unsachgemäßes Mahlen des Mehls, das Vorhandensein von Verunreinigungen, die dem Mehl ungewöhnliche dunkle Farbtöne verleihen, sowie dessen Verschlechterung verursacht werden.

Zur Bestimmung des Feuchtigkeitsgehaltes des Mehles wird in der Regel die Trockenschrankmethode angewendet. Dabei wird eine genau abgewogene Menge Mehl einer bestimmten Trocknungszeit und -temperatur ausgesetzt. Aus dem Trocknungsverlust, der durch Wägung bestimmt wird, ergibt sich der Feuchtigkeitsgehalt des Mehles (in Prozent).

Die Mehltype oder einfach nur „die Type“ gibt den Mineralstoffgehalt des Mehls an, das heißt wie viel Milligramm Mineralstoffe pro 100 Gramm im Mehl enthalten sind. Die Bestimmung erfolgt durch die Festlegung des Mineralstoffgehalts (Aschegehalts), der vom Anteil an mineralstoffreichen Schalenteilchen abhängt. Eine Mehlprobe mit 100 g wird in einem Ofen bei ca. 900 Grad Celsius für ca. 2 Stunden verbrannt. Es bleibt Asche in Form von Mineralsalzen zurück. Die zurückgebliebene Aschemenge ergibt die Typenzahl.

Grobheit der Mehlmahlung wird bestimmt, indem eine Probe (50-100 g) auf einem Laborsieb gesiebt wird. Der Rückstand auf dem oberen Sieb kennzeichnet das Vorhandensein großer Partikel im Mehl und der Durchgang auf dem unteren Sieb - kleine Partikel. Am Ende der Siebung werden der Rest des Obersiebs und der Durchgang des Untersiebs gewogen und als Prozentsatz des Gewichts der entnommenen Probe berechnet.

Mehlbefall mit Schädlingen (Käfer und deren Larven, Schmetterlinge und deren Raupen sowie Zecken) sind nach den geltenden Vorschriften nicht erlaubt. Zur Feststellung des Befalls wird 1 kg Mehl durch Siebe gesiebt. Der Durchgang durch das Sieb Nr. 056 dient zum Nachweis von Milben, Rückstände auf den Sieben Nr. 056 und 067 werden zum Nachweis anderer Schädlinge verwendet. Der Rest muss man in dünner Schicht auf einem Prüfbrett verteilen und sorgfältig untersuchen.

Die Menge an magnetischen Verunreinigungen im Mehl wird durch Extraktion von Metall aus einer 1 kg Mehlprobe bestimmt. Das Metall wird mit starken Magneten, magnetischen Hufeisen, extrahiert. Die abgetrennte Metallverunreinigung wird auf einer Analysenwaage gewogen. Die Größe einzelner Partikel einer metall-magnetischen Verunreinigung in der größten linearen

Dimension sollte 0,3 mm nicht überschreiten, und die Masse der einzelnen Partikel sollte 0,4 mg nicht überschreiten.

Die Menge und Qualität von Rohgluten wird folgender Weise bestimmt: eine Probe von 25 g Mehl wird auf einer technischen Waage gewogen und in einen Porzellanmörser oder eine Tasse gegeben, dazu werden 13 ml Leitungswasser mit der Temperatur 16 ... 20 °C eingegossen. Das Mehl wird mit Wasser gemischt, so dass ein Teig entsteht, der dann gut mit den Händen geknetet wird. Danach muss man den Teig zu einer Kugel rollen, in eine Tasse legen und für 20 Minuten mit einem Glas bedecken, damit die Mehlpartikel mit Wasser gesättigt sind und die Proteine aufquellen.

Dann wird das Gluten unter einem schwachen Strom von Leitungswasser über einem dicken Seiden- oder Nylonsieb von Stärke und Schalen gewaschen, wobei der Teig mit den Fingern leicht geknetet wird. Das Waschen wird zunächst vorsichtig durchgeführt, sodass sich keine Glutenstücke mit der Stärke und den Schalen lösen. Nach dem Entfernen des größten Teils der Stärke und der Schalen ist das Waschen energischer. Nach dem Waschen des Glutens wird es zwischen den Handflächen ausgewrungen, die regelmäßig mit einem Handtuch trockengewischt werden. In diesem Fall wird das Gluten mehrmals mit den Fingern herausgedreht, wobei jedes Mal die Handflächen mit einem Handtuch abgewischt werden. Das Gluten wird gewogen, nochmals 2-3 Minuten gewaschen, wieder ausgepresst und erneut gewogen. Die Glutenwäsche gilt als abgeschlossen, wenn der Gewichtsunterschied zwischen zwei Wägungen nicht mehr als 0,1 g beträgt. Die Menge an nassem Gluten wird als Prozentsatz einer Mehlprobe von 25 g ausgedrückt.

Bei der Qualitätskontrolle von Rohkleber wird Elastizität bestimmt. Dafür werden 4 g Rohgluten für 15 Minuten in ein Glas Wasser mit der Temperatur von 18-20° C gelegt. Dann, nachdem ein Stück Gluten aus dem Wasser genommen und zusammengedrückt wird, wird es 10 Sekunden lang manuell über das Lineal in ein Tourniquet gedehnt, bis es bricht, wobei festgestellt wird, wie lang sich das Gluten gedehnt hat.

Abschließend kann man sagen, dass für jeden Qualitätsindikator des Mehls bestimmte Methode seiner Kontrolle bestimmt ist, entweder organoleptische oder physikalisch-chemische

Jeden Qualitätsindikator des Mehls muss die Übereinstimmung mit den Anforderungen der normativen Unterlagen.

Zum Beispiel, für Weizenmehl sollten die Indikatoren wie folgt sein:

1. Farbe sind für Mehl der höchsten und 1. Sorte - weiß, weiß mit gelber Tönung, für die 2. Sorte -weiß, weiß mit grauer Tönung.
2. Mehl sollte beim Kauen kein Knirschen auf den Zähnen verursachen.
3. Mehlbefall mit Schädlingen sind nicht erlaubt.
4. Mehlfeuchtigkeit sollte 15% nicht überschreiten.
5. Die Normen für den Aschegehalt von Mehl der höchsten, ersten und zweiten Weizenmehlsorten betragen 0,55%, 0,75% und 1,25% bezogen auf die Trockenmasse.
6. Der Glutengehalt sind für Mehl der höchsten und 1. Sorte - mindestens 28-30%, für die 2. Sorte - mindestens 25%, für Vollkornmehl - mindestens 20%.

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PERSÖNLICHKEITSENTWICKLUNG IM LERNPROZESS AN DER HOCHSCHULE ANHALT / DEUTSCHLAND

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Bei der Persönlichkeit geht es um jene Charakteristika oder Merkmale des Menschen, die konsistente Muster des Fühlens, Denkens und Verhaltens ausmachen [2: 31]. Die Entwicklung von Persönlichkeitsmerkmalen macht einen Menschen vielseitig. Sie ermöglicht es, auf externe Faktoren richtig zu reagieren und schnelle Entscheidungen zu treffen.

Ziel des Beitrags ist es zu betrachten, wie Fachhochschule Anhalt, wo ich seit Oktober 2020 als Ausländerin am Masterstudiengang „Food and Agribusiness“ studiere, Persönlichkeitsentwicklung fördert.

Ein Mensch hat von Geburt an einen bestimmten Charakter und eine Reihe von Persönlichkeitsmerkmalen, die im Laufe des Lebens entsprechend den Lebensumständen verändert, korrigiert und entwickelt werden.

Im Laufe unseres Lebens lernen wir immer wieder neue Dinge, so ist beliebiges Lernen zugleich auch Bildung. Das ist etwas, was auch ich an der Hochschule Anhalt erlebt habe. Die Hochschule Anhalt versteht sich nicht nur als Lehranstalt, sondern vor allem als lebensbegleitende Bildungsstätte, die durch Studium und Forschung Bildung ermöglicht, indem sie neben der fachlichen auch die persönliche Weiterentwicklung ihrer Studierenden fördert.

Während des akademischen Jahres an der Universität begegnen Studierende ständig der Arbeit in Teams. Diese Art von Arbeit formt bei den Studenten die Fähigkeit, ein gemeinsames Ziel zu akzeptieren, die Verantwortung zu teilen, sich auf Wege zur Erreichung des vorgeschlagenen Ziels zu einigen, eigene Handlungen auf die Handlungen eines Partners in der gemeinsamen Aktivität zu beziehen. Oft erfüllen die Studenten auch selbstständige Aufgaben, welche die Selbstkontrolle und Selbstkritik fördern. Vielfältige Arten von praktischen Übungen lehren, in der Praxis im Team zu arbeiten. All diese Arten von Arbeit führen zur Kommunikation mit Menschen, was zur Entwicklung persönlicher Eigenschaften beiträgt.

Mein psychologischer Persönlichkeitstyp ist ein introvertierter Mensch. Introvertierte sind Menschen, die weniger mit der Außenwelt als mit der Innenwelt interagieren. Während des akademischen Jahres an der Universität Anhalt musste ich lernen, mit Menschen zu verhandeln, Entscheidungen zu treffen und eine Führungsrolle zu übernehmen. Viele der Studieninhalte waren darauf ausgelegt, mich über mich selbst nachdenken zu lassen. Dadurch wurden die beruflichen Qualitäten verbessert, um mit ihnen in Beziehung zu treten: Fähigkeit, im Team zu arbeiten; schnelle Erlernbarkeit und Flexibilität; Initiativfähigkeit; Fähigkeit, eine Aufgabe ohne ständige Aufsicht auszuführen; Fähigkeit, eigene Meinung zu vertreten und zu argumentieren; Reaktionsschnelligkeit und die Fähigkeit, Verantwortung für persönliche Entscheidungen zu übernehmen; Fähigkeit, Anweisungen zu befolgen; Kommunikationsfähigkeit und die Fähigkeit, sich von Konfliktsituationen zu befreien.

Auch das Vertrauen in die eigenen Fähigkeiten spielt eine große Rolle. Dies ist die Grundlage für jede Tätigkeit. Man muss kein Anführer sein, um zu führen, man muss nur seine eigenen Fähigkeiten gut einschätzen können. Die persönliche Entwicklung erfordert eine gewisse Zeit, die man mit der Arbeit an sich selbst verbringt. Persönliche Entwicklung ist ein Prozess, der dazu beiträgt, das Gleichgewicht zwischen Beruf und Privatleben aufrechtzuerhalten, ungeachtet der Hindernisse, denen man sich gegenübersieht [1].

Als Fazit sei es hervorgehoben, dass Fachhochschule Anhalt nicht nur Fachwissen vermittelt und hochqualifizierte Fachkräfte ausbildet, sondern sehr aktiv Persönlichkeitsentwicklung fördert.

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MODERN LINGUISTIC STUDIES OF THE XXI CENTURY

ІНОЗЕМНА МОВА ЯК НЕВІД'ЄМНА СКЛАДОВА ФОРМУВАННЯ ПРОФЕСІЙНОЇ КУЛЬТУРИ МАЙБУТНІХ ПІДПРИЄМЦІВ

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Дана робота виконана з ціллю з'ясувати взаємозв'язки іноземної мови з дисципліною «Товарознавство». Автори доводять, що основою ефективного навчання іноземної мови є взаємозв'язок змісту й підходів до навчання загальнотеоретичних, фахових дисциплін і дисципліни «Іноземна мова (за професійним спрямуванням)». Результати проведеного анкетування підтверджують значимість і вагому роль міжпредметних зв'язків у вивченні англійської мови.

Мета дослідження полягає у тому, щоб довести позитивний вплив вивчення теми «Делікатеси» на заняттях з дисципліни «Товарознавство» та заняттях з дисципліни «Іноземна мова (за професійним спрямуванням)» для подальшого накопичення професійно-орієнтованого лексичного матеріалу та розвитку мовлення.

Володіння іноземними мовами відіграє суттєву роль у становленні професійної компетентності випускників коледжів. Однак потрібно враховувати, що професійна компетенція не є сталою величиною: вона постійно змінюється під впливом зовнішніх чинників, науково-технічного прогресу тощо. Немає й усталеного переліку компетентностей, адже кожна професія має певний унікальний набір здатностей, властивий лише їй, без оволодіння яким процес адаптації та подальше професійне виконання своїх посадових обов'язків може викликати значні проблеми.

Процес інтеграції економіки та лінгвістики визначається змінами в житті суспільства та розвитком мови економіки. Перспективи розвитку економіки як науки багато в чому залежать від раціоналізації, упорядкування, уніфікації вже наявних понять і термінологічних систем. У предметному полі таких сфер як лінгвістика та економічні науки, постійно перебуває людська діяльність в різних аспектах суспільного життя яка проявляється в різних формах комунікації та пошуку найбільш результативних в економічному вимірі дій. Внаслідок цього дослідження міжпредметних зв'язків лінгвістики та економіки є одним з найбільш важливих напрямків.

Після вивчення теми «Делікатеси» на заняттях з дисципліни «Товарознавство» ми презентували доповідь для детального розуміння на занятті з дисципліни «Іноземна мова (за професійним спрямуванням)». Отриману інформацію ми використовували для розробки лексичних завдань з теми та проведення професійно-орієнтованої рольової гри. Студенти брали участь в обговоренні заданої проблеми у ролі дієтолога або менеджера який намагається переконати своїх колег у важливості знання функціональності та смаку того або іншого делікатесу. Також ми запропонували студентам взяти участь у анкетуванні. За результатами анкетування, ми зробили висновок, що англійська мова посідає перше місце серед інших мов, що вивчаються в Європі та й в усьому світі загалом, і тому вона є важливим засобом комунікації для майбутніх фахівців.

Також ми довели важливість міжпредметних зв'язків для активізації освітнього процесу і для посилення комунікативної спрямованості навчання. У нашому випадку, інтеграція курсу навчальної дисципліни «Товарознавство». в навчанні іноземної мови буде служити як засобом підвищення освітнього рівня, так і для вдосконалення володінням іноземною мовою.

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ФУНКЦІОНАЛЬНИЙ ПОТЕНЦІАЛ ПРОЄКТНОЇ ДІЯЛЬНОСТІ НА ЗАНЯТТЯХ З АНГЛІЙСЬКОЇ МОВИ

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У педагогічному арсеналі інноваційного вчителя завжди є нові форми і методи організації освітнього процесу. Проте такі педагоги також тяжіють до використання надійних та ефективних форм роботи якою, наприклад, є проектна діяльність. Розглядаючи варіант інтеграції проєктів до процесу навчання іноземної мови, можна виділити три основних підходи. Так, проєкт може:

- використовуватися як одна з форм позааудиторної роботи;
- бути альтернативним способом організації навчального курсу чи його окремої частини;
- інтегруватися в традиційну систему навчання мови.

Враховуючи певні показники, або аспекти проведеної роботи, проєкт може бути поцінований, спираючись на такі параметри: 1) актуальність обраної для проєкту теми, практична спрямованість проєкту, відповідність ілюстративного матеріалу розглянутому теоретичному базису; 2) обсяг і повнота розробок, самостійність групи, закінченість проєкту; 3) рівень творчості, оригінальність розкриття теми, рішень; 4) аргументованість висновків, підходів; 5) якість оформлення, структура тексту, якість ілюстрацій, таблиць тощо; 6) загальна якість презентації проєкту, у тому числі: культура мовлення, манери доповідачів; використання наочності, відчуття часу; готовність до дискусії, вміння швидко приймати рішення та знаходити відповіді на запитання, вміння імпровізувати; аргументованість, переконливість.

Сьогодні метод проєктів знову використовується, але вже в оновленому вигляді. Наразі відбувається його трансформація у зв’язку із суттєвою трансформацією освітнього середовища. Тому науковці та вчителі-практики опрацьовують нові формати організації проєктної діяльності школярів, презентації результатів, інтеграції в інші види діяльності. Саме осмислення та застосування цього методу в новій соціокультурній ситуації у світлі вимог до утворення на сучасному щаблі суспільного розвитку дозволяє говорити про проєкти учнів як про ефективну педагогічну технологію, що дозволяє успішно вирішувати завдання особистісно-орієнтованого підходу в навчанні молодого покоління.

Стосовно до уроку іноземної мови, проєкт – це спеціально організований вчителем і самостійно виконуваний учнями і студентами комплекс дій, що завершуються створенням творчого продукту.

Проєкт цінний тим, що у процесі його виконання, школярі вчаться самостійно здобувати знання, набувати досвіду пізнавальної та навчальної діяльності.

Проєктна методика характеризується високою інтерактивністю і передбачає висловлення учнями і студентами своїх власних думок, почуттів, активне включення в реальну діяльність, прийняття особистої відповідальності за просування в навчанні.

Головні цілі введення в шкільну практику методу проєктів:

1. Реалізація творчого потенціалу учня і студента як суб'єкта самостійної навчальної діяльності.
2. Актуалізація особистісно значущих мотивів навчальної діяльності.

3. Інтеграція міжпредметних знань.

4. Включення процесу освоєння предмета в реальну інформаційно-освітню, проєктно-дослідницьку та соціокультурну діяльність.

5. Створення умов для формування навчальної компетентності учнів у предметній галузі та їх розвитку як мовних особистостей.

До завдань проєктної діяльності можна віднести:

- контроль знань і умінь з пройденого матеріалу;
- формування у свідомості школярів інформаційної картини світу;
- можливість працювати з цифровими технологіями;
- розвиток умінь пошуку та обробки інформації;
- робота за новими режимами взаємодії;
- більш розвинуту автономію у навчанні;
- вміння слухати і поважати думки інших учнів;
- особиста замученість і відповідальність кожного учасника проєктного навчання;
- розвиток дослідницьких умінь.

Тема проєкту може бути пов'язаною не тільки з країною проживання учнів або мов, які вивчаються, але й з іншими, адже це – чудовий спосіб використати міжпредметні зв’язки. Проблема, пропонована учням формулюється так, щоб орієнтувати учнів на залучення фактів із суміжних галузей знань і різноманітних джерел інформації.

Різноманітність, як необхідна риса будь-якого ефективного навчання, сприяє підтримці інтересу до навчання – це і різноманітність тем, типів текстів (діалоги, монологи, листи, настільні ігри, описи, інструкції і т.п.), і різноманітність форм навчальної діяльності (індивідуальна, парна, групова робота, робота в командах), і різноманітність типів вправ [2].

Проблемність означає, що учні та студенти використовують мову як для виконання завдань, які характеризуються новизною результату, так і новими способами його досягнення. Проблеми змушують думати, і підліток навчається, думаючи, мислячи. Є широкий діапазон комунікативних завдань і проєктних робіт, орієнтованих на вирішення проблем. Проблемний підхід є особливо актуальним у навчанні іноземних мов, оскільки спонукає учнів використовувати мову та осягати її як систему з конкретним прагматичним наміром.

Безумовно, важливо, щоб учень навчався із задоволенням. Підліток вчиться продуктивно і багато дізнається, якщо він вчиться вільно, без примусу, відчуваючи радість. Розважальність – це одна із особливостей проєкту. Часто завдання можуть оформлятися у вигляді головоломки, загадки тощо, мати музичний супровід, шумові ефекти, ілюстрації.

За допомогою проєктної методики на уроці можна досягти одночасно кількох цілей – розширити словниковий запас учнів, закріпити вивчений лексико-граматичний матеріал, створити на уроці атмосферу свята і прикрасити кабінет іноземної мови створеними підлітками постерами [1].

Отже, проєктне навчання, на нашу думку, є плідним засобом підвищення активності учнів і студентів у процесі навчання іноземних мов, оскільки воно змушує їх відійти від шаблонного трактування навчальних завдань та наблизитися до наукової практики вивчення певної теми взагалі та окремих її складових. Робота над проєктом змушує приймати нестандартні рішення, пов’язувати лінгвістичну практику з реаліями інших дисциплін та різноманітних культурних явищ, сприяє розвитку предметних компетентностей вкупі з низкою універсальних навичок.

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MODERN ENGLISH SLANG

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Modern English slang. What is it and should it be taught?

Knowledge of a foreign language as a native language is, first of all, the ability to easily and effortlessly communicate on any topic with its speakers, regardless of their gender, age, culture and other individual features.

It's the lively spoken language you hear in shops, cafes, clubs, public transport and on the street when traveling abroad. Much of it is so-called non-literary vocabulary - jargon and slang, which we will talk about in this report.

First we will learn what slang is. **Slang is words and phrases used by certain age and social groups in certain situations, most often young people.** This lexical layer is very dynamic: new expressions are constantly appearing in it, and old ones, which are losing popularity and predictably going out of use, are gradually being forgotten and disappearing.

Slang is in close relationship with culture, history and other social aspects of life. That is why when mastering spoken English, experts recommend not to focus solely on the development of common and literary vocabulary, but to pay special attention to the study of slang, in particular, as a linguistic reflection of the lives of young people and adolescents.

What are the main slang features?

First is brevity. Often new colloquial phrases and words are replaced by longer and more difficult to pronounce constructions. Young people like to speak briefly and capaciously. For example, the popular slang word "Watcha", which translates as "How are you?" or "How himself?" was taken from the phrase "What cheer."

Second, it's emotional. Youth language is expressive and bright, it has almost no emotionally neutral vocabulary. Therefore, when studying modern slang in English, clearly remember what shade each phrase contains. Yes, the word "Noob" means not just a beginner, but a person who does not know how to do something, annoys questions and constantly complains about their failures, without making any attempts to learn a particular thing. This designation has a clearly negative, derogatory character.

And the last important feature is popularity. Thanks to the Internet, English spoken vocabulary is spreading around the world with incredible speed. It is worth a new phrase to sound in a popular series, as the next day it is used with pleasure on all continents.

However, slang words and expressions should be used carefully and in moderation. A couple of colloquial phrases inserted into ordinary speech may go unnoticed. But a lexical construction with a pronounced negative color, such as, for example, "He is all mouth and no trousers", can confuse the participants. Therefore, before demonstrating your deep linguistic knowledge, make sure that your interlocutors are ready for such expressions.

There are several distinctive types of abbreviations in English:

1**. Common abbreviations**, they are also abbreviations, for example IDK - I don't know. There are a lot of such abbreviations, it is quite difficult to remember everything - there are thousands of them. Often the native speakers themselves guess about the meaning of this or that abbreviation only from the meaning of the correspondence in the chat or forum.

2. **Words and phrases using numbers**. It can be difficult for people who have just started to learn the English language right off the bat to read and understand such phrases in online communication: c u l8r (see you later). For those who still remember what a rebus is, it will be a little easier. At the initial stage, you should not dwell on these numbers and letters, just try to say what is written out loud, and the sounds will tell you familiar words. 2day - [tuː] [deɪ] - today (today); m8 - [m] [eɪt] - mate (buddy, partner, partner).

3. Another type of writing of the lazy inhabitants of the English-speaking part of the Internet is **the words shortened in the process of colloquial speech**: kinda (kind of), wanna (want to), lemme (let me). The specificity and importance of these abbreviations is that we constantly hear them in the spoken language of Americans and British, so they should be paid special attention to.

By the way, American slang is significantly different from British, and there is still Canadian and Australian.

Slang in written communication

Correspondence and active commenting on social media posts, SMS and messaging is difficult to imagine without the use of colloquial vocabulary.

Interestingly, written slang differs from the literary norm not so much in expression as, above all, in brevity. It has little emotionality, because its main task is to save time and effort of the writer. Here are some examples of such abbreviations:

Abbreviations	Their meanings
8	ate
C	see
4	for
r	are
u	you
ur	our
ty	thank you
y	why
l8r	later
activ8	activate
b4	before
BTW	by the way
bf	boyfriend
gf	girlfriend
2da	today

In correspondence, as in colloquial language, the use of jargon and slang in English is extremely situational: such phrases are typical of adolescents and young people who communicate with each other on abstract topics. In business correspondence, such abbreviations are rare.

How to learn English slang?

First of all, let's determine whether it is necessary to study this language layer at all. Some people believe that it is enough to know the book vocabulary to fully communicate in English, while jargon and slang will be memorized by direct language practice.

Linguists disagree with this view and point out that in certain circumstances the study of the colloquial layer of a foreign language is no less important than the acquaintance with the literary form. Thus, youth slang, jargon and idioms in English should at least know and be able to use in appropriate situations. To study foreign slang, experts recommend doing the following: in correspondence, as in colloquial language, the use of jargon and slang in English is extremely situational. Such phrases are typical of adolescents and young people who communicate with each other on abstract topics. In business correspondence, such abbreviations are rare.

How to learn English slang?

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Linguists disagree with this view and point out that in certain circumstances the study of the colloquial layer of a foreign language is no less important than the acquaintance with the literary form. Thus, youth slang, jargon and idioms in English should at least know and be able to use in appropriate situations. To study foreign slang, experts recommend doing the following:

- **Practice live communication**. Find a foreign friend for correspondence or online conversations. Communicate with him on a variety of topics, using not only literary but also informal vocabulary.
- **Watch movies in the original.** Start with the popular pictures you've already seen with the translation, then move on to the new series and movies. If you find it difficult to perceive what is happening on the screen, choose a video with English subtitles.

This allows you to learn English slang fairly quickly. I hope you found my report interesting)

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ОСОБЛИВОСТІ ВИКОРИСТАННЯ РИМІВОК У ПРОЦЕСІ ФОРМУВАННЯ ФОНЕТИЧНОЇ КОМПЕТЕНТНОСТІ НА ЗАНЯТТЯХ З ІНОЗЕМНОЇ МОВИ

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Загальновідомо, що сучасна концепція навчання іноземних мов пов'язана з гуманізацією освіти, що передбачає звернення особливої уваги на особистість здобувача освіти, на розкриття особистісного потенціалу, на виявлення його інтересів, потреб на різних ступенях навчання в спілкуванні іноземною мовою та формування ключових компетентностей освіти впродовж життя. Спілкування іноземними мовами є однією з таких ключових компетентностей. А однією з складових іншомовної компетентності є мовна компетентність, яка передбачає формування фонетичної компетентності як необхідного її компонента.

Отже, актуальність обраної теми полягає в тому, що хоча з одного боку основи формування фонетичної компетентності вже закладені у здобувачів освіти на початковому ступені навчання, проте чи існують сучасні інноваційні технології оволодіння фонетичними навичками на заняттях з іноземної мови.

Завданням нашого дослідження є:

– ознайомитись та проаналізувати публікації вітчизняних та зарубіжних авторів;

– уточнити питання: в чому полягає популярність використання римівок у навчанні іноземної мови та методика їх опрацювання;

– підібрати приклади римівок з різноманітних тем та презентувати їх.

Звичайно ж, викладачами на заняттях з англійської мови використовуються короткі автентичні аудитивні тексти для опрацювання фонетичного матеріалу з метою формування слухо-вимовних та інтонаційних навичок, але застосування інноваційних технологій з використанням римівок буде сприяти підвищенню мотивації, створенню особливої атмосфери доброзичливості та співпраці.

Римівки є захопливим та ефективним інструментом для оволодіння англійською мовою. Римівки – це ритмічне пред’явлення справжньої мови, яка наближує ритм розмовної англійської до ритму традиційної мови. Це – фрагмент автентичної мови, який презентується з особливою увагою до його природного ритму. Римівки – це багатобічний гнучкий матеріал. У римівках використовується розмовна англійська. Вони не потребують жодних спеціальних матеріалів та обладнання, їх можна використовувати в різних вікових групах. Студенти легко запам’ятовують нову лексику, якщо вона презентується за допомогою римівок. Це дуже простий та веселий шлях вивчення англійської мови.

Перед початком роботи пояснюються ключові та нові слова, презентується римівка. Студенти об’єднуються в групи та повторюють римівку з додаванням рухів за бажанням. Студенти можуть проявити творчість та складати власні римівки. Якщо є можливість, можна зробити аудіо запис римівок, що склали студенти. В процесі виконання проекту нами було зібрано близько 70 римівок, які біли розподіленні за темами: погода та пори року, їжа, спорт, професії. В результаті опитування було виявлено позитивне ставлення студентів до використання римівок на заняттях з іноземної мови.

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САМОСТІЙНЕ ВИВЧЕННЯ АНГЛІЙСЬКОЇ МОВИ: ПЕРЕВАГИ ТА НЕДОЛІКИ

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1. Англійська мова є мовою міжнародного спілкування. Вже багато років ця мова домінує над іншими за кількістю носіїв. Це означає, що ті, хто знає англійську, мають певні переваги. Існує багато способів вивчення англійської мови, але тільки два: з вчителем або самостійно. Учителем може бути будь-хто, від шкільного вчителя до родича, який володіє англійською мовою. У самонавчанні вашими «вчителями» є книги та Інтернет.

2. Перевагами самостійного навчання є:

- Можна вибирати ті розділи мови, які найбільше цікавлять або більш потрібні, а не тільки ті, які передбачаються програмою. Отже кожен може складати сам для себе унікальну систему навчання, яке підходить саме для нього.

• Самостійне навчання є більш вигідним, бо, наприклад, дві години з репетитором коштують стільки ж, скільки і хороший словник або підручник, який здатний замінити дорогі курси.

• Самонавчання можна перетворити на справжнє задоволення. Для цього достатньо слухати радіо англійською мовою, завантажувати ігрові програми для англійської, читати улюблені газети та дивитися новини з першоджерел.

• Звичка займатися регулярно дозволить вам з часом підняти рівень знань вище рівня багатьох випускників університетів, які не займаються мовою після закінчення ВНЗ.

3.Недоліками самостійного вивчення англійської мови є:

• При самостійному навчанні не має того, що виникає зазвичай при колективному навчанні - суперництво. Суперництво для деяких людей є сильним поштовхом, багато хто навіть не помічає, як вони досягають своїх цілей, змагаючись.

• При вивченні мови з вчителем або репетитором вас завжди направлять і допоможуть. Педагог оцінить ваші знання, вкаже на помилки і дасть добру пораду. При самостійному навчанні вам доведеться бути максимально пильними, щоб уникнути помилок.

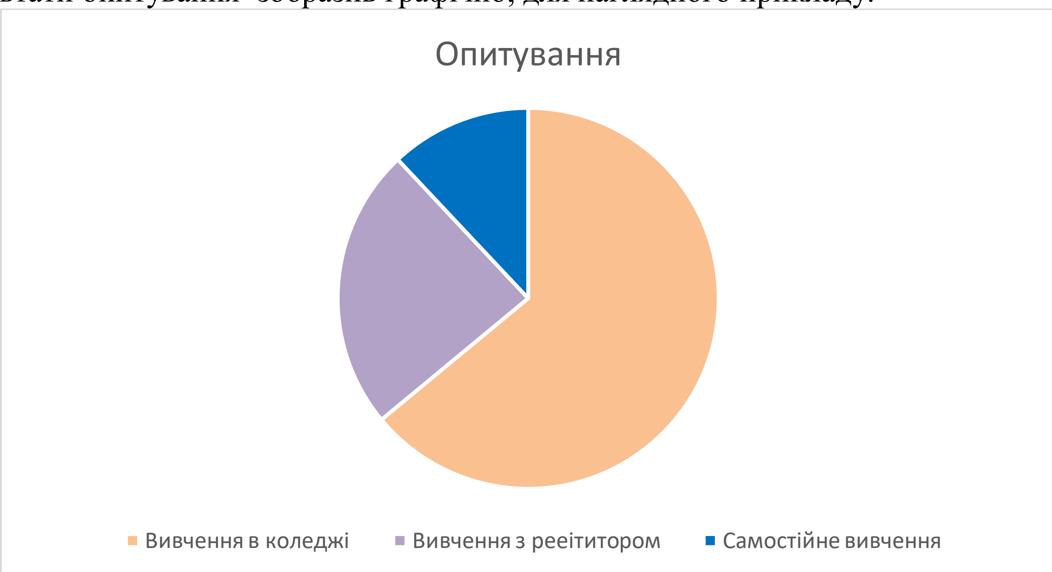
• Одного підручника з англійської мови буде недостатньо, для досягнення результатів необхідно слухати, бачити, повторювати, писати, а для цього потрібно дивитися відео, знаходити цікаві аудіо матеріали, спілкуватися з іноземцями, шукати співрозмовників. Не кожному вдається знайти хорошого співрозмовника з англійської.

• Самостійне навчання – справа лише для наполегливих і старанних людей, тож для деяких такий спосіб вивчення може просто не підійти.

4. Вільний графік

Що значить «вільний графік» при самостійному навчанні? Відповівши на питання: «Чи зможу я дотримуватись свого графіку та робити все вчасно?», можна відповісти і на питання: «Чи зможу я вивчити мову самостійно?». Якщо ти відповідальна людина – то вільний графік, звичайно, стане для тебе головною превагою. Ти зможеш вчити мову будь-де і коли завгодно. Інша річ, коли ти любиш полінуватися та списати завдання з інтернету, спростивши собі роботу. Для таких вільний графік – точно не найкращий друг, а скоріше навіть заклятий ворог. Вільний графік – це така сама перевага, як і недолік. Все залежить тільки від самої людини, яка буде обирати шлях для вивчення англійської мови.

5. Щоб закріпити дослідження цієї роботи, я зробив опитування у своїй групі та результати опитування зобразив графічно, для наглядного прикладу.



• 64% обрали варіант «Вивчення у коледжі» (тобто 16 студентів)

• 24% проголосували за репетиторів (6 учнів)

• 12%, обрали самостійне навчання (3 учні)

5. Висновок

Вивчити англійську самостійно можна. Головне - визначитися, для чого тобі потрібна мова, сформулювати чітку мету і сконцентруватися саме на тих аспектах, які необхідні для її досягнення. Якщо вперто йти до своєї цілі, то ніякий «недолік» вам не завадить.

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Науковий керівник: *Івженко С. Ю., викладач іноземної мови, Мелітопольський державний промислово-економічний фаховий коледж*

ЗДАТНІСТЬ ДО МІЖКУЛЬТУРНОЇ КОМУНІКАЦІЇ ЯК МЕТА НАВЧАННЯ ІНОЗЕМНИХ МОВ

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У наш час мета навчання іноземної мови передбачає не тільки вивчення мови як «форми для вираження зовнішнього змісту», «як систему знаків», «інформаційний код», а й як феномен, тісно пов’язаний з людською діяльністю і культурою, оскільки мова як соціальне явище не може існувати без людини. Переорієнтація навчання іноземної мови на комунікативну іншомовну освіту ставить перед студентом нові цілі і завдання і, зокрема, спрямовані на оволодіння іншомовною культурою спілкування.

Ще древні філософи античного світу розглядали співвідношення мови і культури і відзначали активну роль мови в розвитку культури, досягненні наукових істин. Сформувавшись у суспільстві, мова сприяє розквіту культури, відображає національну психологію, соціально-історичні умови життя і культурні особливості народу. Цілком закономірно, що мова як засіб комунікації виступає як інструмент передачі культурних цінностей народу, що говорить цією мовою [1, с. 6]. Таким чином, мова виступає як компонент духовної культури, необхідний засіб людського мислення і спілкування, є умовою його виникнення і розвитку, а також передачі культурних цінностей від покоління до покоління. Таким чином, мовна освіта як результат оволодіння комунікативною компетентністю передбачає не тільки формування у студентів вміння практично користуватися мовою, що вивчається, але й оволодіння умінням розуміти носія іншої картини світу і успішно вести з ним комунікацію. Тобто, результатом мовної освіти є цілеспрямовано сформована вторинна мовна особистість з великими фоновими знаннями країни, мова якої вивчається.

Теорія міжкультурної комунікації – відносно нова галузь досліджень, але проблеми взаємодії та взаємовпливу культур, співвідношення культури і мови, а також пошук оптимальних форм міжкультурного спілкування завжди привертали увагу дослідників. Задовго до того, як міжкультурна комунікація сформувалася в окрему галузь знань, багато питань, що згодом стали для неї основними, були рзроблені такими вченими, як Аристотель, Г. В. Лейбніц, І. Кант, Г. В. Ф. Гегель, В. фон Гумбольдт, Ф. Боас та багато інших.

Невід'ємну частину «культурної грамотності» кожного сучасного фахівця в області комунікативістики складають погляди В. фон Гумбольдта, які дали поштовх розвитку багатьох напрямків у мовознавстві і лінгвокультурології. Згідно з В. фон Гумбольдтом, поділ людства на народи і племена і відмінність його мов і діалектів тісно пов'язані між собою і залежать від третього явища більш високого порядку – дії людської духовної сили, яка виступає завжди в нових і часто більш досконалих формах ... Кожна конкретна мова пов'язана з духом народу … і чим сильніше вплив духу на мову, тим закономірно багатший розвиток останньої [3, с. 45].

Гумбольдтовське поняття духу народу як маніфестації культури отримало безліч різнорідних інтерпретацій у вітчизняній і зарубіжній науці. У роботах В. фон Гумбольдта знаходилися витоки тих ідей, які згодом підхопили і розвинули інши автори: Я. Грімм, А. А. Потебня, І. А. Бодуен де Куртене, Ш. Баллі, А. Марті та інші.

Американський лінгвіст і антрополог Едвард Сепір і його учень Бенджамін Лі Уорф розробили гіпотезу лінгвістичної відносності, згідно з якою структура мови визначає структуру мислення і спосіб пізнання зовнішнього світу [4, с. 174].

Початок XXI сторіччя характеризується переглядом фундаментальних основ лінгвістичної освіти. Сучасні геополітична, геоекономічна і геокультурна ситуації вимагають введення і використання інноваційних технологій в системі мовної освіти, які сприяють формуванню «вторинної мовної особистості». На думку Е. Голла, який разом з Г. Трейгером у 1959 році вперше запропонував основні положення теорії і сам термін «міжкультурна комунікація», головною метою викладання іноземних мов є навчання мови як реального і повноцінного засобу спілкування [5].

У процесі міжкультурної комунікації кожна людина одночасно вирішує дві найважливіші проблеми – прагне зберегти свою культурну ідентичність і включитися в чужу культуру. Комбінація можливих варіантів вирішення цих проблем визначає чотири основні форми міжкультурної комунікації: пряму, непряму, опосередковану і неопосередковану. При прямій комунікації інформація адресована безпосередньо від відправника до одержувача. Вона може здійснюватися як в усній так і в письмовій формі. У прямій комунікації найбільший ефект досягається за допомогою усного мовлення, що поєднує в собі вербальні та невербальні засоби. У непрямої комунікації, яка носить переважно односторонній характер, інформаційними джерелами є твори літератури і мистецтва, повідомлення радіо, телевізійні передачі, публікації в газетах і журналах, електронних засобах інформації тощо.

Більшість дослідників визначають міжкультурну комунікацію як особливу форму комунікації двох або більше представників різних культур, в ході якої відбувається обмін інформацією і культурними цінностями взаємодіючих культур. Процес міжкультурної комунікації є специфічною формою діяльності, яка не обмежується тільки знаннями іноземних мов, а вимагає також знання матеріальної і духовної культури іншого народу, релігії, цінностей, моральних установок, світоглядних уявлень тощо, які в сукупності визначають модель поведінки партнерів по комунікації. Тільки поєднання двох видів знання – мови і культури – забезпечує, на думку О. П. Садохіна, ефективне та плідне спілкування.

Складові елементи міжкультурної комунікації дослідник розділяє на:

- афективні (толерантність, емпатія);
- когнітивні (культурно-специфічні знання, які сприяють взаєморозумінню);
- процесуальні (комунікативні стратегії, які включають початок розмови, мовні кліше тощо, властиві іншій культурі) [2].

Інформація, що складає зміст процесу комунікації, існує не ізольовано, а в нерозривному взаємозв'язку з культурною картиною світу, що є у кожної сторони. У сукупності культурна картина світу і комунікативна інформація утворюють контекст процесу комунікації. Прийнято виділяти внутрішній контекст і зовнішній контекст.

В якості внутрішнього контексту виступає сукупність фонових знань, ціннісні установки, культурна ідентичність і індивідуальні особливості індивіда. Сюди ж можна віднести настрій, з яким комуникант вступає в спілкування і який становить психологічну атмосферу комунікації.

Зовнішній контекст комунікації складають час, сфера та умови спілкування. Важливою обставиною є місце проведення комунікації, яке визначає фон комунікативного процесу.

Отже, під міжкультурною комунікацією розуміється взаємодія індивідів, груп або організацій, що належать до різних культур. У науковому сенсі міжкультурна комунікація – це гібридна гілка академічних дисциплін, що поєднує культурну антропологію, соціологію та міжнародні дослідження, орієнтовані на шляхи полегшення розуміння через кордони та культури. Важливими аспектами міжкультурної комунікації виступають такі поняття, як «культура», «соціалізація», «комунікація». Існують чотири основні форми міжкультурної комунікації: пряма, непряма, опосередкована і неопосередкована. Складові елементи міжкультурної комунікації можна розділити на афективні (толерантність, емпатія); когнітивні (культурно-специфічні знання, які сприяють взаєморозумінню); процесуальні (комунікативні стратегії, які включають початок розмови, мовні кліше, властиві іншій культурі). У сукупності культурна картина світу і комунікативна інформація утворюють внутрішній і зовнішній контексти процесу комунікації. Ефективність процесу міжкультурної комунікації забезпечує наявність відповідної компетентності у того, хто спілкується.

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ПРИНЦИПИ НАВЧАННЯ ІНОЗЕМНИХ МОВ

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За умов гуманізації сучасної освіти та перебудови усіх її ланок, у тому числі й навчання іноземних мов, відбувається пошук оптимальних шляхів організації навчально-виховного процесу, раціональних варіантів змісту навчання та його структури. З огляду на актуальність міжнародного спілкування в сучасному світі, перед освітянами постає проблема ефективної організації процесу навчання іноземних мов.

Загальноприйнятою є думка (М.В. Ляховицький, Р.К. Міньяр-Бєлоручев, Ю.І. Пассов, Г.В. Рогова, Ф.М. Рабинович та інші), що навчання іноземних мов базується на загальнодидактичних (принципи наочності, посильності, міцності, свідомості, науковості, активності, виховуючого навчання, індивідуалізації, доступності, систематичності та послідовності, колективності, проблемності, розвиваючого навчання) і власне методичних / лінгводидактичних принципах (принципи комунікативності, домінуючої ролі вправ, взаємопов’язаного навчання видів мовленнєвої діяльності, урахування рідної мови), що відображають специфіку предмета «Іноземна мова» як засобу спілкування і пізнання [3, с. 48]. Термін «принцип» походить від латинського слова principium «основа», «спочатку». Принцип навчання – це першооснова, закономірність, згідно з якою повинна функціонувати і розвиватися система навчання предмета. У більшості випадків методисти намагаються встановити певну ієрархію основних принципів навчання іноземних мов. При цьому вони справедливо виходять з того, що, з одного боку «Іноземна мова» як навчальна дисципліна є одним з навчальних предметів в системі освіти, і отже, оволодіння нею відбувається згідно принципам, проголошеним загальної дидактикою, а з іншого – у методики навчання іноземних мов є своя методологічна основа, яка має власні закономірності.

І.П. Павлова наголошує, що в сучасних умовах принципи навчання іноземних мов зазнають змін, отримуючи нову інтерпретацію внаслідок подальшого розвитку системи освіти в цілому і мовної освіти, зокрема. В рамках особистісно-діяльнісної підходу, представниками якого якого є І.О. Зимня, О.О. Леонтьєв, Н.Ф. Коряковцева, Ю.І. Пассов навчальна діяльність розглядається як взаємодія між викладачем і студентами і між студентами; самі студенти (учні) вважаються суб'єктами цієї діяльності, вивчаючи і засвоюючи навчальний предмет, в тому числі і іноземну мову, а викладач (вчитель) стає їх помічником, поступово передаючи їм управління навчальним процесом. Це підсилює їх самостійність, а головне завдання викладача (вчителя) полягає в тому, щоб навчити їх вчитися, в тому числі й вивчати іноземну мову як засіб спілкування і пізнання. Досягнення цілей навчання здійснюється в результаті співпраці між студентами (учнями) і викладачем (вчителем) і між самими студентами (учнями) [Павлова с. 48].

Серед методичних принципів дослідниця називає такі:

- комунікативна спрямованість навчання в цілому
- взаємозалежне і диференційоване навчання різних видів мовленнєвої діяльності іноземною мовою;
- ситуативність і контекстуальність навчання спілкуванню іноземною мовою;
- інтерактивність, тобто мовленнєву взаємодію студентів один з одним, а також групи студентів з викладачем;
- взаємозалежне вивчення мови і культури;
- урахування впливу рідної мови і / або першої нерідної і досвіду їх вивчення на засвоєння іноземної мови;
- інтернаціоналізація професійної підготовки фахівців.

Загальнодидактичні принципи об'єднують у п'ять груп, враховуючи їх тісний взаємозв'язок:

- розвивальне навчання, усвідомленість студентами цілей навчання і способів їх досягнення і збільшення самостійності студентів;
- наочність, градація труднощів і системність;
- пізнавальна та комунікативна активність студентів і професійна спрямованість навчання;
- врахування вікових та індивідуальних особливостей студентів, а також психологічних характеристик особистості;
- переважання внутрішньої мотивації і особистісна значимість навчальних завдань.

Важливий для вивчення іноземних мов дидактичний принцип пов'язаний з тривалим характером навчання взагалі і мов зокрема. Його зміст зводиться до наступного: навчання іноземних мов, націлене на формування в учнів здатності до міжкультурної комунікації, має носити діяльнісний характер, який виражається в зовнішній і внутрішній активності учнів. В основу даного принципу покладені ідеї теорії діяльності (Л.С. Виготський; О.Р. Лурія; О.М. Леонтьєв та інші психологи), згідно з якою діяльність розглядається як активна взаємодія людини з навколишньою дійсністю. В ході даної взаємодії людина виступає як суб'єкт, який цілеспрямовано впливає на об'єкт, і задовольняє, таким чином свої реальні потреби [1; 2].

Особливо актуальним в сучасних умовах, дистанційного навчання зокрема, є дидактичний принцип автономності: навчання іноземних мов має бути спрямоване на формування автономії учнів у навчальній діяльності з оволодіння конкретною іноземною мовою. При цьому важливі прояв учнем власної активності, наявність задоволення від спілкування суб'єктів навчального процесу один з одним, від усього того, чим необхідно займатися на занятті. Важливим фактором успішності засвоєння навчальної дисципліни є автономність учнів як в конкретній навчальній ситуації, так і в контексті подальшого безперервного навчання. Тому процес навчання повинен мотивувати кожного учня до самостійного і активного здійснення навчальної діяльності, до усвідомленої оцінки свого навчального досвіду і в разі необхідності усвідомленої його корекції.

Отже, навчання іноземної мови залежить від мети, що виявляється у формуванні комунікативної компетентності учнів, яка проявляється в певному рівні розвитку в учнів здатності до спілкування на міжкультурному рівні. Навчання іноземних мов базується на загальнодидактичних (принципи наочності, посильності, міцності, свідомості, науковості, активності, розвивального навчання, індивідуалізації, доступності, систематичності та послідовності, колективності, проблемності, вмотивованості) і власне методичних / лінгводидактичних принципах (принципи комунікативності, домінуючої ролі вправ, взаємопов'язаного навчання видів мовленнєвої діяльності, урахування рідної мови, інтерактивності, взаємозалежного вивчення мови і культури), що відображають специфіку предмета «Іноземна мова» як засобу спілкування і пізнання.

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МОВНА СПЕЦИФІКА ТЕКСТІВ АНГЛОМОВНОЇ РЕКЛАМИ АВТОМОБІЛІВ

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Реклама – невід'ємна складова сучасної економіки та культури взагалі. В умовах жорсткої конкуренції вихід товару на ринок вимагає значної реклами, яка притягне до товару увагу, надасть інформацію про нього, в образній формі спробує переконати, що він найкращій.

Надзвичайні темпи розвитку промисловості, зміни в економіці та суспільстві впливають на рекламу. Необхідність ефективно впливати на покупця в таких умовах вимагає при створенні реклами поєднання творчого підходу із науковими доробками психології, математики, статистики, логіки, соціології та ряду інших наук.

Слоган як стрижень реклами має високий прагматичний потенціал. Сучасні лінгвісти активно вивчають психолінгвістичні, мовні, перекладознавчі особливості журнальних текстів та слоганів як важливих компонентів реклами.

Актуальність дослідження зумовлюється відсутністю комплексного аналізу мовних особливостей журнальних текстів та слоганів англомовної реклами автомобілів.

Об’єктом дослідження є англомовні журнальні тексти реклами Jeep та слогани в рекламі автомобілів.

Предмет дослідження – лексико-семантичні особливості журнальних текстів реклами Jeep, лексико-семантичні та стилістичні характеристики слоганів в англомовній рекламі автомобілів.

Мета роботи полягає у висвітленні основних лексико-семантичних особливостей журнальних текстів реклами Jeep, лексико-семантичних та стилістичних особливостей слоганів в англомовній рекламі автомобілів.

Таким чином, основна функція реклами – регулятивна. Реклама має надати певну інформацію про товар, послугу чи бренд, привернути увагу потенційного споживача, відкластися в пам’яті. Орієнтація текстів на потенційного споживача обумовлює відбір та особливості використання мовних одиниць.

Автоматизований аналіз 10 рекламних журнальних текстів компанії Jeep продемонстрував, що найчастотнішими словами таких текстів є *drive* та його деривати, *power, wheel, more, front, engine*. Основні лексико-семантичні поля таких текстів: «Автомобіль», «Сила», «Людина» і «Перевага». В рекламних журнальних текстах компанії Jeep використовуються технічні терміни і назви.

Слоган – стислий та експресивний стрижень реклами. При створенні слогану ретельно та творчо відбувається відбір мовних засобів. Під час дослідження ми охарактеризували лексико-семантичні та стилістичні характеристики слоганів в англомовній рекламі автомобілів. Нами було проаналізовано 200 слоганів англомовної реклами автомобілів.

За допомогою автоматизованого аналізу текстів було виявлено найчастотніші одиниці: *drive, car, better, built, new, road*. Слова, які часто використовуються, належать до лексико-семантичних полів «Автомобіль», «Досконаліcть», «Людина», «Почуття». Слогани англомовної реклами автомобілів містять переважно лексику з нейтральною або позитивною оцінкою. В слоганах реклами технічних засобів майже відсутні технічні терміни.

Дослідження стилістичних особливостей слоганів продемонструвало активне використання широкого набору фонетичних стилістичних засобів (алітерації, асонансу, ритму, рими), лексичних стилістичних приймів (метафори, гіперболи, гри слів), стилістичного синтаксису (повтору, еліпсису, інверсії, антитези та паралелізму, риторичного запитання). Широке вживання гіпербол пояснюється тим, що така реклама орієнтована значною мірою на чоловіків. Необхідність створити особливо виразний і ефективний слоган спричиняє численне використання брендами стилістичного синтаксису, зокрема конвергенції.

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IX Всеукраїнська науково-технічна конференція магістрантів і студентів ТДАТУ. Кафедра «Іноземні мови»: матеріали IX Всеукр. наук.-техн. конф., 10- 25 листопада 2021 р. Мелітополь: ТДАТУ, 2021. 130 с.

У збірнику представлено виклад тез доповідей і повідомлень поданих на IX Всеукраїнську науково-технічну конференцію магістрантів і студентів Таврійського державного агротехнологічного університету імені Дмитра Моторного. Тези доповідей та повідомлень подані в авторському варіанті.

Відповідальність за представлений матеріал несуть автори та їх наукові керівники.

Матеріали для завантаження розміщені за наступними посиланням:
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Відповідальні за випуск: викладачі Лемещенко-Лагода В.В., Нісаноглу Н.Г.