

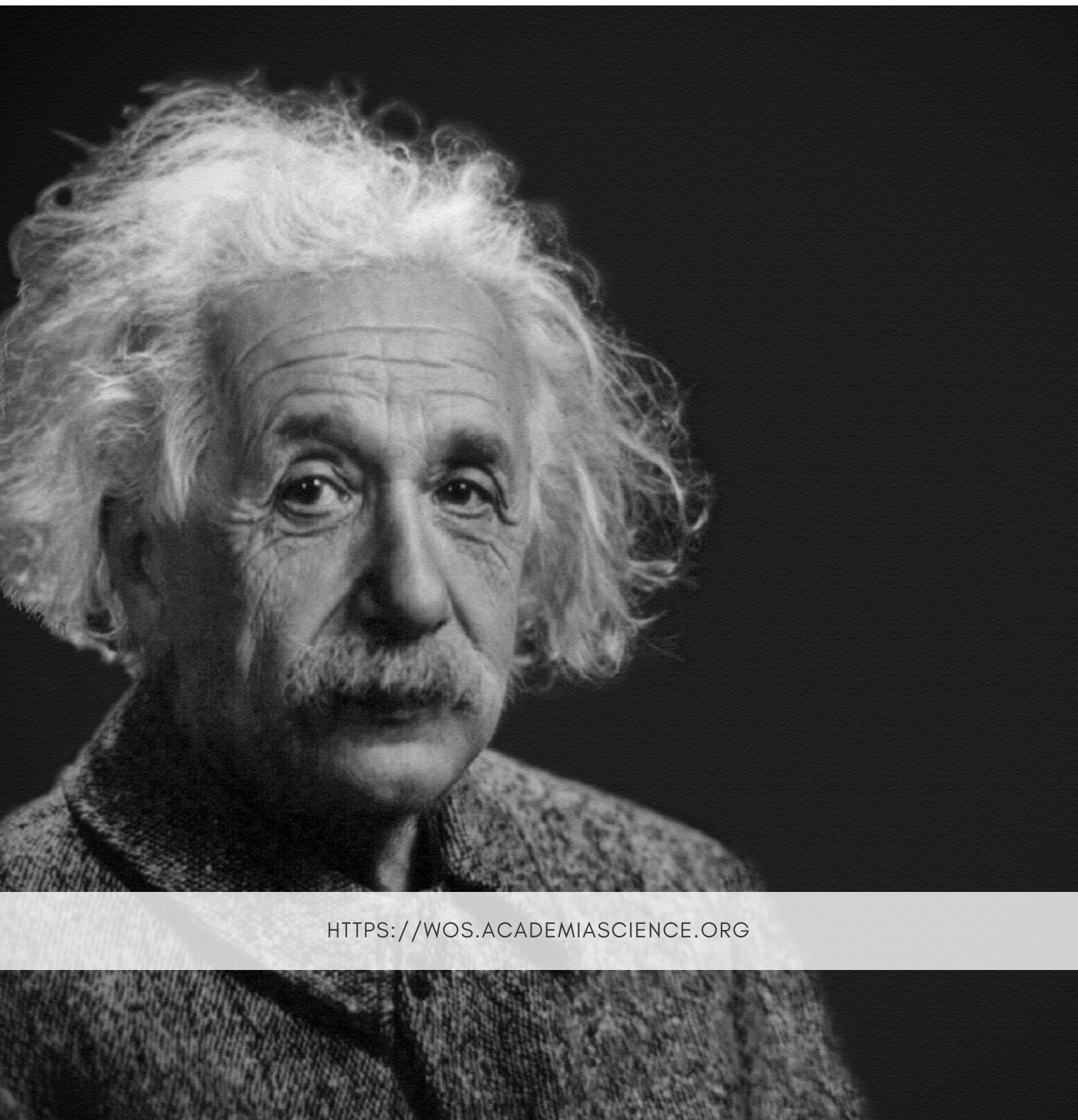
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THE ROLE OF BANK GUARANTEES IN THE ACTIVITIES OF BUSINESS ENTITIES

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Annotation

This article examines the essence of bank guarantee in detail. Also, the structure of bank guarantees in developed countries and its specific features are discussed in detail on the basis of theoretical and practical data, and scientific proposals on the use of foreign experience in our country have been developed.

Keywords: bank, bank guarantee, tender guarantee, bank guarantee insurance, guarantee agreement.

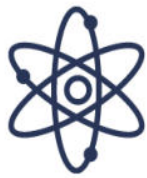
Introduction

Bank guarantees are a relatively new type of service provided by commercial banks. Business entities using this banking product are mainly used in certain tenders, export and import operations, loans or borrowings. They also use it when they want to buy goods or services without funds or when they want to use the funds for other purposes. In general, it applies to the bank when there is a payment obligation or an obligation to fulfill the order.

Commercial banks provide this service in their credit policy and in accordance with the law. The bank guarantee is issued on a special form in accordance with the guarantee agreement. Guarantee forms are prepared on paper on the basis of an agreement between the Central Bank and the State Production Association "State Sign" on paper provided with a special form of special security marks and delivered by the Central Bank to all branches of the bank.

Guarantee agreements are based on the Statute of the Central Bank of the Republic of Uzbekistan dated May 15, 2012 No. 2364 "On the procedure for issuing bank guarantees by commercial banks"[1] and are concluded in accordance with the "Recommendations for lending agreements" of each commercial bank. These agreements must specify the rights and obligations of the parties, the amount of the guarantee, the amount to be recovered from customers in the event of payment by the bank, the amount of the service fee for the bank guarantee, the order of their payment and other conditions. Commission fees for the issuance of bank guarantees are set and charged on the basis of tariffs for banking services of commercial banks.





Literature Review

A bank guarantee is one of the ways to ensure the fulfillment of obligations, in which a bank, another credit institution, an insurance organization or other commercial organization (guarantor) issues, at the request of the debtor (principal), a written obligation to pay the creditor (beneficiary) a sum of money upon presentation of a demand for its payment [2].

Independent guarantee - the guarantee of the guarantor bank for the fulfillment of the client's monetary obligations; if the client fails to pay on time, the bank will do it [3].

Let us also consider the opinion of another economist, E.A. Michurina. By its economic nature, an independent guarantee is a tool for transferring credit risk from the beneficiary to the guarantor, expressed in the provision of the so-called guarantee loan to the beneficiary's counterparty - the principal. The operation of issuing an independent guarantee is a credit and insurance service provided by the guarantor to the principal for a fee [4].

So, particular attention should be paid to the tender guarantee. Tender guarantee - a written guarantee issued by the bank for the tender participant. A bank, a credit institution guarantees that such a participant will fulfill its obligations in accordance with the rules of the competition. The tender guarantee helps to avoid the following risks: refusal of the participant to fulfill its obligations to supply or provide services; withdrawal of the proposal participating in the tender; refusal of the party for which the guarantee was issued from signing the contract in case of winning the tender. The tender guarantee not only ensures the fulfillment of the obligations by the winner on the conditions that were announced during the competition, but also creates a barrier for unscrupulous enterprises to deprive the participation of too small enterprises, which cause doubts in the organizer [5].

Analysis and Results

We can understand the bank guarantee from the picture below.

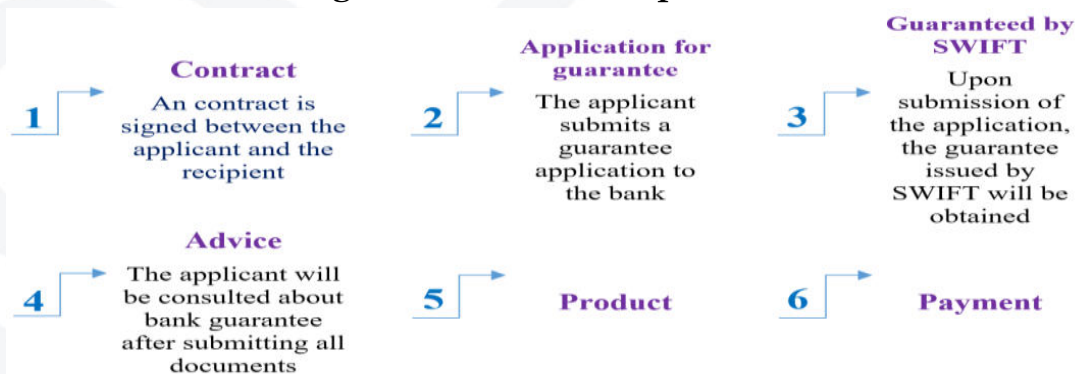


Figure 1. The mechanism of operation of the bank guarantees



As you know, a bank guarantee is a popular tool for payment and fulfillment of contractual obligations. A bank guarantee is one of the ways to secure the performance of an obligation, in which the bank, at the request of the debtor, gives the creditor a written obligation to pay the amount at the time he so requests. First of all, contract is signed between the applicant and the recipient. Then, the applicant submits a guarantee application to the bank. Secondly, upon submission of the application, the guarantee issued by SWIFT will be obtained. The applicant will be consulted about bank guarantee after submitting all documents. After that, there will be product and payment.

At this point, let's take a look at the current condition of bank guarantees and its ups and downs. According to the Expert RA rating agency, the guarantee portfolio of commercial banks operating in Russia will grow in 2021. Also, the guarantee market will be supported by an increase in the volume of government purchases against the backdrop of a planned increase in spending on the implementation of national projects, a significant part of which is related to the development of road infrastructure. The guarantee business remains one of the most attractive for banks due to the low level of default. Even despite the growth of payments in 2020 to a record level of 0.5%, default on guarantees remains significantly lower than on loans. Due to the stabilization of the economic situation in 2021, the disclosure of guarantees will noticeably decrease relative to 2020, however, it will remain quite high in comparison with 2019, since at the beginning of 2021 the moratorium on bankruptcy of companies from affected industries expired [7].

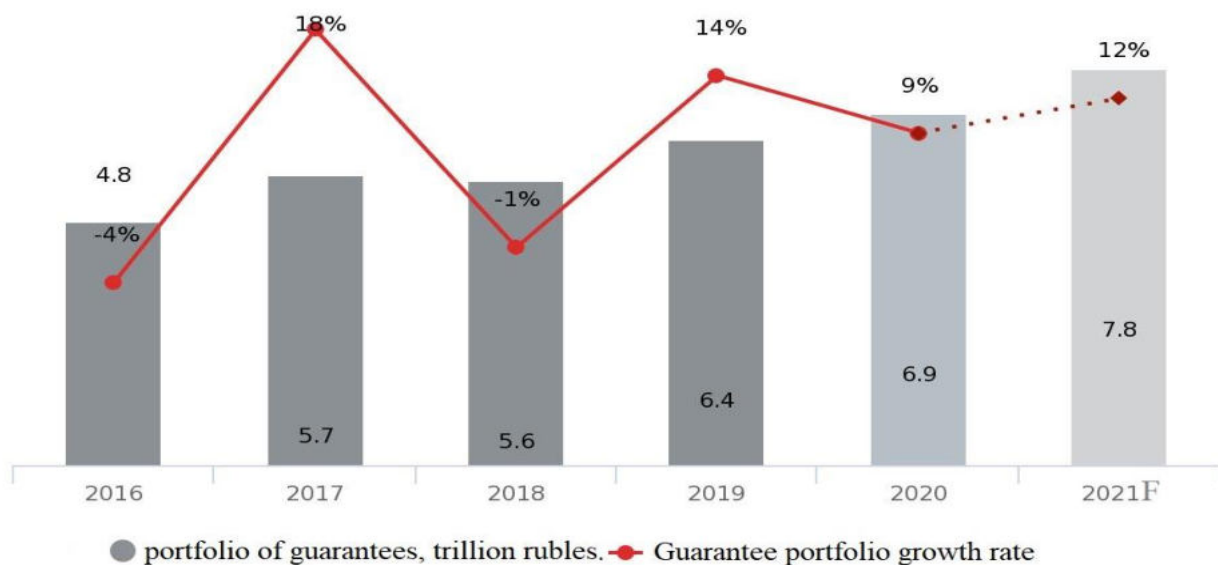


Figure 2. Bank guarantee portfolio growth rate in Russia [7]



Let's talk about the insurance of guarantees provided by banks. Bank guarantee insurance is an additional way to reduce the risks that may arise between a bank and an organization. This type of insurance is used as collateral for credit, payment, rent and leasing operations. A bank guarantee can be insured as a financial instrument of domestic and international business relations. In this case, the cost of covering the potential risks of the guarantor shall be borne by the insurance company. The bank guarantee agreement is valid under the main agreement between the guarantor (bank or credit institution), the principal (Debtor) and the beneficiary (lender). Bank guarantee insurance is a form of protection against the risks that may arise from the application of a guarantee that can be issued. A bank guarantee insurance contract can be considered as a separate type of guarantee contract, in which the bank is the borrower and, in principle, the insurance company is the guarantor, and the lender is the beneficiary of the guarantee.

Alternatively, there are several different types of bank guarantee insurance for the following purposes:



Figure 3. Types of bank guarantee insurance

The contract of bank guarantee insurance is concluded for a period of several months to 30 years. In this case, the insurance protects the interests of the guarantor bank and ensures that it conducts operations with minimal losses.

There are a number of advantages of bank guarantee insurance, which we will discuss below.



1. 

The bank transfers its responsibility to the insurance company.

2. 

Bank guarantee insurance is a guarantee that the price of the insured securities will not change.

3. 

Liquidity of insured securities will increase.

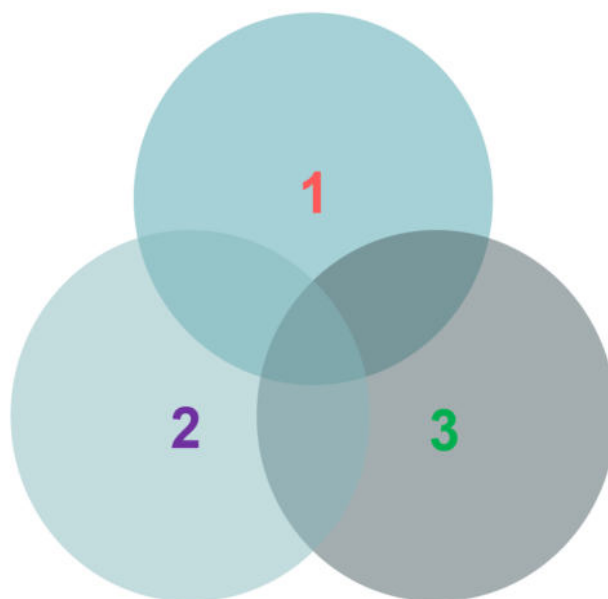


Figure 4. Advantages of bank guarantee insurance

Only large companies can conclude a bank guarantee insurance contract. In all cases, the bank first checks the customer's credit history and financial documents and then makes a decision. If an insurance mechanism is used, a bank guarantee will be more necessary. This document saves not only the bank itself, but also the principal from losing money. In this case, the risks are minimized by the insurance company.

Conclusions

Based on the study of the above theoretical and practical data, the following conclusions and recommendations were developed:

- Bank guarantee is a new banking service provided by banks today;
- The implementation of a number of necessary steps in the registration of a bank guarantee directly reflects the mechanism of operation of the bank guarantee;
- Bank guarantee insurance and its types directly serve to clarify the bank guarantee;
- It was found that bank guarantee insurance has all the necessary advantages.

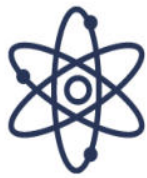
References:

1. Statute of the Central Bank of the Republic of Uzbekistan dated May 15, 2012 No. 2364 "On the procedure for issuing bank guarantees by commercial banks". <https://lex.uz/docs/2012652>
2. Wikipedia, the free encyclopedia. <https://wikipedia.org/>
3. Raizberg BA, Loribzovsky L. Sh., Starodubtseva EB "Modern economic dictionary". 5th ed., Rev. and add. - M.: "INFRA-M", 2007. - 495 p.



4. Michurina E.A. Bank guarantee as a way to ensure the fulfillment of credit obligations // "Bulletin of the Udmurt University. Series of Economics and Law". 2015. No. 2-3. P. 145.
5. Ed. G.N. Beloglazova, L.P. Krolivetskaya. Banking: Textbook Ed. G.N. Beloglazova, L.P. Krolivetskaya. - 5th ed., Rev. and add. - M.: Finance and Statistics, 2003. - 592 f., 2003.
6. Rakhimov, Akmal (2021) "ISSUES OF INCREASING CUSTOMERS SATISFACTION GRADE WITH BANKING SERVICES," International Finance and Accounting: Vol. 2021 : Iss. 2 , Article 15. Available at: <https://uzjournals.edu.uz/interfinance/vol2021/iss2/15>
7. In 2021, the growth rate of the guarantee portfolio will accelerate, and the level of disclosure will decrease. Source: data of the Bank of Russia and public reporting of banks, forecast by Expert RA. https://raexpert.ru/researches/banks/bank_forecast_2021/





RESEARCH OF ECOLOGICAL AND HYGIENE ASPECTS OF AGROFAKTORS AFFECTING HUMAN HEALTH

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ANNOTATION

Worldwide, more than 420,000 people die each year from consuming poor-quality food, and about 600 million people are diagnosed with health problems after consuming food that does not respond to sanitary-hygienic standards. In addition, food-related risks lead to the development of more than 200 acute and chronic diseases of the gastrointestinal tract.[1]. Accordingly, the cultivation of organic pure fruits and vegetables is now relevant. Nowadays, ensuring food safety in maintaining a healthy lifestyle depends to some extent on the composition of fruits and vegetables. It is known that the amount of nitrate in fruits and vegetables exceeds the allowable level due to the excessive use of mineral fertilizers to increase the productivity of agricultural products. Also, a number of scientific studies are being conducted to reduce and prevent these risks. According to data from research ASSURE the amount of nitrate in the fruit fed with mineral fertilizers was 80.8 mg / kg (60 mg / kg according to GOST), and in the variant of biological fertilizers this figure was 50.9 mg / kg. At the same time, the amount of these nitrates also affected the sugar content and acidity of the fruit. %, 0.40% in the biological fertilizer option and 0.51% in the mineral fertilizer option, which is 0.21% higher than the control. It was also found experimentally that the dry matter content was 12.85% in the control variant, which is 0.9 times higher in the biological fertilizer variant than in the 13.6% mineral fertilizer variant. In addition, mineral and bio-fertilizers themselves the use of the fruit with a normal amount of nitrate present an updated mineral and organic contamination in the soil. In conclusion, our research has shown that the use





of biological (siderite) fertilizers as an alternative to mineral fertilizers in the prevention of nitrate poisoning is universally acceptable.

Keywords: organic product, environmentally friendly product, nitrate content, sugar content, acidity, dry matter, soil nutrients, food safety.

Relevance

Improving food security is important in our country to improve the health of the population. Excessive use of nitrogen fertilizers to increase the productivity of agricultural products affects the quality of food, in particular, it is worth noting that the excess of nitrate in fruits and vegetables has a negative impact on human health. Also, the Action Strategy for the further development of the Republic of Uzbekistan for 2017-2021 identifies "... further strengthening of food security of the country, increasing the production of environmentally friendly export-oriented fruit products" as one of the important strategic tasks, in this regard the cultivation of safe, organic produce is now relevant. In recent years, a number of reforms have been carried out in the country to ensure food security, fully meet the needs of the population in fruit products, their processing and export, and the cultivation of ecologically clean products. Including national food security, there are a number of decisions and decrees, in particular, of agricultural products to ensure compliance with international standards of quality and safety indicators of the Cabinet of Ministers dated 18.11.2020 "Organic products and raw materials as well as organic and mineral fertilizers safety regulations - Resolution No. 729 "On Approval of Legal Documents" .

The aim of the study is to develop a technological system for the cultivation of hygienically environmentally friendly, organic products, as well as to protect the soil from mineral pollution.

Research Methods

The experiments were carried out on the basis of methodological manuals and scientific recommendations, such as "Methods of agrochemical analysis of soil and plants" (1979), "Methods of state testing of agricultural crops" (1983).

Biochemical analysis of fruit composition is carried out on the basis of the method given in the manual "Methods of biochemical research of plants", edited by AI Ermakova, nitrate content of fruit in Soeks nitrate tester-2 (2009), sugar content of fruit on a refractometer, acidity titration. increased, and the dry matter was carried in





the Bertrand method. The amount of humus in the tillage layer I.V.Tyurin, gross nitrogen, phosphorus, potassium content I.M.Maltsev and L.P.Gritsenko, interchangeable potassium flame photometer, nitrate nitrogen in the methods of Granvald-Lyajju, as well as mobile phosphorus B.P. Made in Machigin style .

Research Results

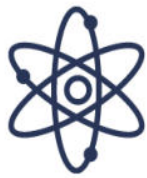
Experience 20 During the period 14-2016 in the foothills of the Zarafshan oasis acad. Horticulture, viticulture and winemaking named after M. Mirzaev was carried out in the peach orchard at the Samarkand Experimental Station. In the experiment, mineral fertilizers and alternative biological (siderite) fertilizers were used. The gross and mobile amounts of them in the soil were also analyzed. This is because every nutrient in the soil is directly absorbed into the fruit and affects its ecological and hygienic indicators, as well as our health by entering the human body through it.

1 – Table Experience mineral fertilizers and biological Arda after the amount of nutrients in the soil

Variants	Humus %	Gross %			Mobileform, mg / kg		
		N	P	K	N-NO ₃	P ₂ O ₅	K ₂ O
Before the experiment	0.80	0.08	0.08	1.25	6,50	25,4	262,6
Mineral fertilizers (FON + N ₁₂₀)	0.81	0,16	0.10	1.26	8,62	25.9	274.5
Biological fertilizers (siderates)	0.84	0.14	0.13	1.30	7.05	30.3	291.5

In this table, it was found that while the humus content was 0.80% before the experiment, the biological fertilizer options increased to 0.84% over three years. The total amount of nitrogen, phosphorus and potassium was 0.08% before the experiment and 0.10-0.13%, depending on the species, and their mobile forms increased accordingly. In the variant fed with mineral fertilizers, it was observed that the minerals in the soil are quickly assimilated and accumulate in the fruit. Also, chemical analysis of the composition of the fruit revealed that more nitrate was accumulated in the variant fed with mineral fertilizers than in biological fertilizers.

Quality of fruit content is one of the important conditions of export requirements. Fruits, with their healing, aroma and taste, satisfy the human body's need for vitamins. But now the fruits and vegetables in order to increase the



productivity of excess use of fertilizers is due to a negative impact on the amount of nitrate in the structure.

In the experiment, the nitrate content of the fruit in the biological fertilizer variant was 50.9 mg / kg, while in the mineral fertilized variant the figure was 80.9 mg / kg. The permissible amount of nitrate for the fruits was required to be 60 mg / kg and it was found that 30.0 mg / kg excess nitrate was accumulated in this variant (Fig. 1).

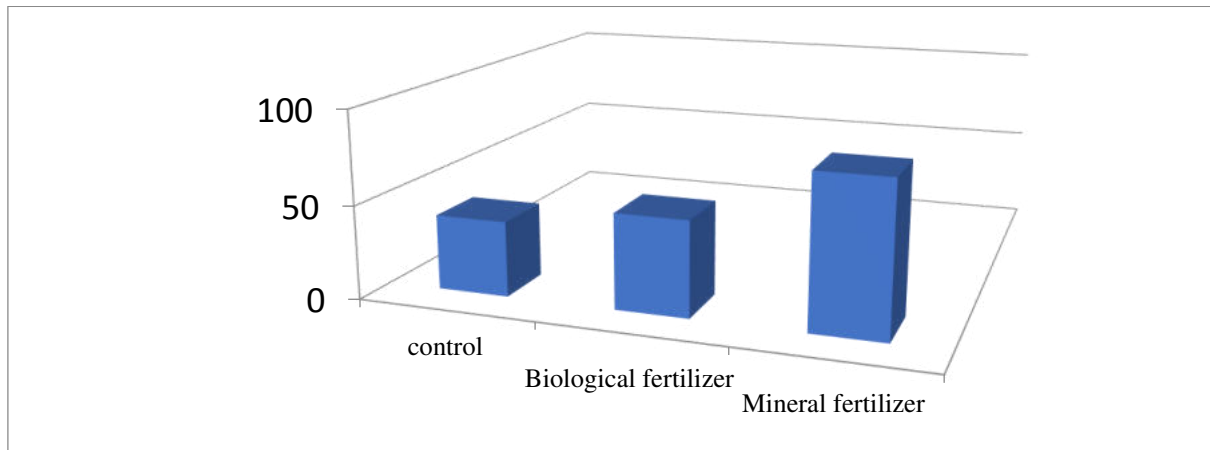


Figure 1 Influence of types of fertilizers on the amount of nitrate in peach fruit

Currently, the focus in global health is on food safety, and to date, nitrate poisoning has been observed due to the high content of nitrate in fruits and vegetables. The daily number of nitrates entering the human body should not exceed 600 mg. 222 mg per body weight of 60 kg on average is the daily nitrate norm. The above data show that not only nitrate itself but also the sugar and acidity of the fruit is a factor that regulates them.

Mineral fertilizers in the experiment was not only measured, but the amount of nitrate contained in a sugarfruit, acidity and dry substances are also identified (2 picture is).

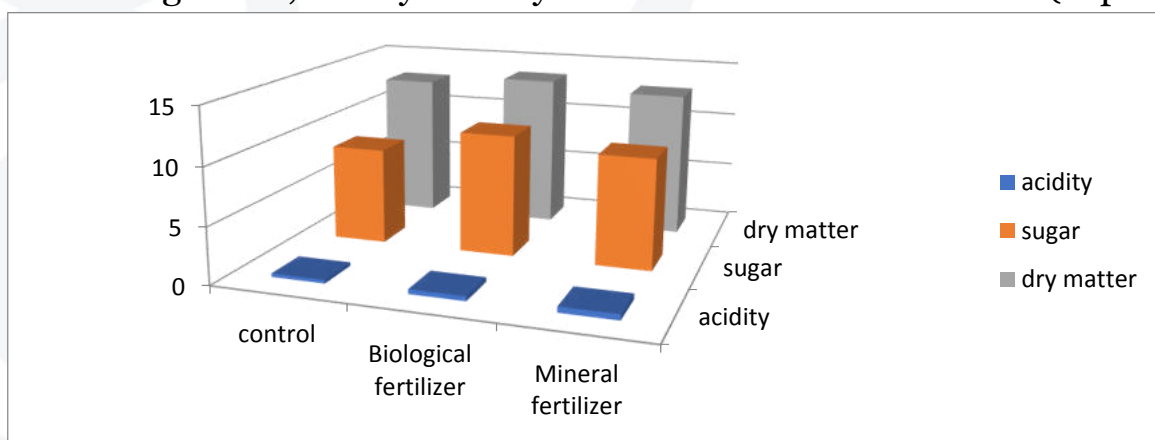


Figure 2 Peach fruit biogeochemical effects of types of chemical fertilizers

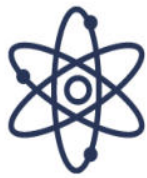


Figure 2 shows that in the experiment, the sugar content was 8.65% in the control (without fertilizers) variant, 10.80% in the biological fertilizer (siderates) variant, and the acidity was 0.30% in the control variant, and 0.40% mineral in the biological fertilizer variant. fertilizer control options were 0.51%, compared with 0, 21 % higher than the levels detected. It was also found experimentally that the dry matter content was 12.85% in the control variant, which is 0.9 times higher in the biological fertilizer variant than in the 13.6% mineral fertilizer variant.

Conclusion

The growing population of the world is also leading to an increase in demand for food. Quality food is a guarantee of health. Based on the above data, it can be concluded that consumption without analyzing the amount of nitrate in fruits and vegetables is dangerous for our health. Not exceeding the daily norm guarantees our health. The presence of sugar, acids and vitamins, as well as other biologically active substances in the daily consumption of fruits and vegetables means a quality diet. Regulating the daily intake of nitrates is one of the important factors that everyone should follow.

References

1. Decree of the President of the Republic of Uzbekistan dated January 16, 2018 No. PF 5303
2. KarimovSh.I. Healthy eating is a criterion of health, Tashkent 2015
3. Shaykhova G.I. Food hygiene Tashkent 2011
4. Zhu SG et al. Dietary nitrate supplementation protects against doxorubicin-induced cardiomyopathy by improving mitochondrial function. *Journal of the American College of Cardiology*, 57 (21): 2181–2189. (2011)
5. Abdumuminova R.N. Efficient use of natural resources and man-made factors in horticulture. // Scientific application " A groilm" of the Journal of Agriculture of Uzbekistan. - Tashkent, 2016. - № 6. - B. 42-43.
6. Abdumuminova RN Requirement of peaches to external environmental factors. // Journal of Agriculture of Uzbekistan. - Tashkent, 2017. - № 8. - B. 40.

Websites :

1. <https://24tv.ua/health/ru>
2. <https://www.botanichka.ru>
3. <http://www.fao.org/food-safety/ru/a>





USE OF MICROBIOLOGICAL PREPARATIONS AND MICROFERTILIZERS FOR PRE-SEEDING TREATMENT OF FOREST SAKSAUL

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ABSTRACT

The results of studies on the influence of the microbiological preparation "Ecobacter" and micronutrient fertilizer "Nanoplant" on the growth and development of seedlings of white (*Haloxylon persicum*) and black (*Haloxylon aphyllum*) saxaul are presented.

Keywords: seeds, seeds, seedlings, pre-sowing treatment, microbiological preparation, biometric indicators.

INTRODUCTION

Forest plantations can be created by two methods: sowing seeds and planting seedlings. However, as scientific studies have shown, the effectiveness of work from sowing seeds, as a rule, is low, and also leads to a greater consumption of seeds. It all depends on the germination of seeds, the susceptibility of the soil to deflationary processes and the water availability of the year. Unlike sowing seeds, annual good results can be obtained from planting seedlings. Scientists of the Republican Scientific and Production Center of Ornamental Horticulture and Forestry, who have been conducting research on the drained bottom of the Aral Sea for more than 30 years, have established that it is necessary to gradually move from sowing seeds to planting seedlings. Sowing seeds should be carried out in the autumn-winter period, and planting seedlings in early spring. The negative side of planting in the fall is the drying of the planted plants in the winter, especially when the moisture supply of the year is low.





It is important to properly prepare the seeds for sowing. For saxaul seeds, sanding for 3-4 days or one day soaking in running water is advisable. The seeding rate of seeds of the first quality class is 67 kg / ha, the second class - 83 kg / ha and the third class 100 kg / ha. Seeds are sown with a laboratory germination rate of at least 70%.

The seed sowing technology is differentiated depending on the type of soil. The seeding depth of black saxaul seeds on sandy loam soil is 1.5-2.0 cm, on sandy soil 2-3 cm.

The optimal time for sowing seeds of sand-strengthening rocks is the period of transition of the average daily air temperature above 5 degrees. For the northern regions of Uzbekistan it is the end of February - the beginning of March, for Karakalpakstan - the end of March - the beginning of April, for Aralsk - the end of April [1, 2].

MATERIAL AND METHODS

For the cultivation of standard planting material in forest nurseries, pre-sowing seed preparation is of great importance. For pre-sowing treatment of acorns of white saxaul (*Haloxylon persicum*) and black (*Haloxylon aphyllum*) seeds, Nanoplant (MN) microfertilizers and Ecobacter microbiological preparation (MPE) were used. The research was carried out in two permanent forest nurseries of the Nukus Experimental Forestry Enterprise and the Beruniy Forestry Enterprise of the Republic of Karakalpakstan. Nanoparticles of micronutrient fertilizer "Nanoplant" have a unique property of superpermeability through protective cell membranes, which makes it possible to reduce the consumption of microelements by hundreds of times, to ensure high efficiency of enzyme synthesis that accelerates plant growth and development, and increases resistance to stress and diseases.

Microbiological preparation "Ecobacter" is an aqueous solution containing a symbiotic complex of specially selected natural living microorganisms, lactic acid and photosynthetic bacteria that fix nitrogen, saccharomycetes and culture liquid.

RESULTS AND DISCUSSIONS

The study of the formation of mycorrhiza on the root systems of saxaul seedlings according to the variants of the experiment was carried out according to the generally accepted methods: Selivanova I.A. [3]; Veselkina F.V. [4]; Eropkina K.I. [5]. The study of the characteristics of the root systems of seedlings was carried out by counting on one plant; roots of I, II and III orders, the total number of roots per plant; the lengths of the roots of the I, II and III orders, the total length of the lateral roots. The density of mycorrhiza was calculated according to I.A. Selivanov. [3].





The obtained results of field studies were processed by the method of mathematical statistics using the Statistica 7.0 software [6].

The conducted studies on the influence of the pre-sowing preparation of forest seeds on the biometric parameters of white saxaul (*Haloxylon persicum*) and black (*Haloxylon aphyllum*) seedlings are presented in Table 1.

Table 1 Influence of pre-sowing seed treatment on biometric parameters and yield of standard seedlings of white saxaul (*Haloxylon persicum*) and black (*Haloxylon aphyllum*)

Experimental variants	Height of the aboveground part, cm	Diameter of the root collar, mm	Length of the main root, cm	Yield of standard planting material, thous. pieces / ha
Seedlings of white saxaul (<i>Haloxylon persicum</i>)				
Control	12,2±0,5	3,1±0,3	46,4±6,5	445,0
MN	14,8±0,6	3,5±0,4	49,3±6,7	467,0
MPE	16,1±0,7	3,6±0,5	53,2±6,9	520,0
Seedlings of black saxaul (<i>Haloxylon aphyllum</i>)				
Control	19,7±0,8	2,7±0,6	52,6±6,0	470,0
MN	25,6±0,9	3,2±0,7	56,3±7,1	562,0
MPE	26,4±1,0	3,4±0,8	59,8±7,5	578,0

As can be seen from the old table, the height of the aboveground part of white saxaul (*Haloxylon persicum*) in the MPE variant exceeds the control variant of the experiment by 32%, and the seedlings of black saxaul (*Haloxylon aphyllum*) - by 34%. The use of MPE for pre-sowing treatment of seeds contributed to an increase in the diameter of the root collar in seedlings of white saxaul (*Haloxylon persicum*) and black saxaul (*Haloxylon aphyllum*) exceeded the control by 16 and 30%, respectively. The main criterion for determining the effectiveness of pre-sowing seed treatment is the yield of standard seedlings per hectare. When growing seedlings of white saxaul (*Haloxylon persicum*) on the MPE variant, an increase in the yield of standard seedlings of white saxaul (*Haloxylon persicum*) by 37% was recorded, and when growing seedlings of black saxaul (*Haloxylon aphyllum*) by 23%.

On the variants of the experiment with the use of new preparations for the pre-sowing preparation of forest seeds, an increase in the mass of both the aboveground and underground mass of seedlings was noted in comparison with the control by 1.3-2.0 times.

The dynamics of the formation of root systems and the formation of mycorrhiza on them in seedlings of white saxaul (*Haloxylon persicum*) have been studied. In the variant of the experiment with pre-sowing treatment of MPE, the seedlings had a more developed root system, which was characterized by an increase in the number



of roots of I, II, and III orders. The highest indices of the development of roots of the third order, on which the bulk of mycorrhizal endings are formed, were noted in plants with the use of MPE.

An analysis of the development of root systems and the formation of mycorrhiza on them showed that, both in the control and according to the variants of the experiment, the development of three forms of mycorrhizal endings is noted: clavate, forked, and coral. However, in the MBE variant, the percentage of the development of a complex coral form of mycorrhiza was 1.3 times higher than this indicator as compared with the control. Moreover, coral mycorrhiza was observed on the roots of I, II and III orders. Consequently, an increase in the number of roots and their length on the root systems of seedlings influenced the formation of developed (coral) forms of mycorrhizal endings and led to an increase in the degree of mycorrhizal content of plants.

The indicators of various forms of mycorrhiza on the root systems of annual seedlings of white saxaul (*Haloxylon persicum*) were studied. In the control variant of the experiment, 72.5% of mycorrhiza were represented by a simple clavate form and an insignificant amount (7.9%) by a forked form. Presowing seed treatment contributes to a change in the ratio of the mycorrhizal shape and increases the amount of complex coral shape. On the MBE variant on the root systems of white saxaul seedlings, the amount of simple clavate mycorrhiza was 38.6%, forked - 32.8% and complex coral - 28.6% (Table 2).

Table 2 Indicators of the occurrence of mycorrhizal forms on the root systems of white saxaul (*Haloxylon persicum*) seedlings

Variants	Forms of mycorrhiza on the roots of seedlings,%		
	Clavate	forked	coral
Control	72,5±6,3	19,6±1,4	7,9±0,6
MN	72,5±6,3	35,1±2,6	24,5±1,7
MPE	38,6±4,2	32,8±2,2	28,6±1,9

Studies have shown that the use of new drugs contributes to an increase in the root systems of pedunculate oak seedlings of a complex coral form of mycorrhiza by 3.6 times and a forked one by more than 1.6 times.

A close correlation was revealed between the degree of mycorrhiza of the root systems of seedlings and the height of the aboveground part. According to many authors 5-7, the development of more complex forms of mycorrhiza on the root systems of seedlings contributes to an increase in plant resistance to many environmental factors.



When growing seedlings of white saxaul in forest nurseries to obtain a more fibrous root system, some scientists recommend pruning the stem root. Seedlings with such a root system take root better, but according to Maly L.P. [10], the taproot is not restored in 4-year-old crops. With such a root system, they suffer more from droughts, soil compaction and other adverse factors.

Our research has shown that the main root of annual seedlings of white saxaul on the experimental site. Nukus experimental forestry enterprise dominates over other roots. Its average length by the end of the growing season is 27.4 cm, and the diameter of the root collar is 3.6 mm. Roots of the 1st order are located along the entire length of the main root and have a thickness of 1 mm, and a length of 1.6 cm. Roots of the 2nd order during this period have a small length of 0.4 cm.

In the Beruni forest nursery, when growing seedlings of black saxaul (*Haloxylon aphyllum*) in open ground conditions, seeds of the 1st quality class were used at a seeding rate of 67 kg / ha with pre-sowing treatment with micronutrient fertilizer "Nanoplant" and microbiological preparation "Ecobacter".

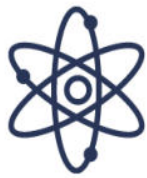
CONCLUSIONS

Thus, the studies carried out show that in order to obtain a standard planting material for seedlings of white saxaul (*Haloxylon persicum*) and black saxaul (*Haloxylon aphyllum*), it is necessary to carry out pre-sowing seed treatment with Nanoplant micronutrient fertilizer and Ekobacter microbiological preparation. On the variants of the experiment with the use of new preparations for the pre-sowing preparation of forest seeds, an increase in the aboveground and underground mass of seedlings was noted in comparison with the control by 1.3-2.0 times.

The height of the aboveground part of the seedlings of white saxaul (*Haloxylon persicum*) in the variant with the use of the microbiological preparation "Ecobacter" exceeds the control variant of the experiment by 32%, and the seedlings of black saxaul (*Haloxylon aphyllum*) - by 34%. The use of the microbiological preparation "Ecobacter" for pre-sowing treatment of seeds contributed to an increase in the diameter of the root collar in seedlings of white saxaul (*Haloxylon persicum*) and black (*Haloxylon aphyllum*) exceeded the control by 16 and 30%, respectively. The main criterion for determining the effectiveness of the use of new drugs is the yield of standard seedlings. When growing English oak seedlings on the MBE variant, an increase in the yield of standard white saxaul seedlings by 37% was recorded, and when growing black saxaul seedlings by 23%.

Presowing treatment of forest seeds contributes to a change in the ratio of mycorrhizal forms and increases the amount of complex coral-shaped forms. On the variant with



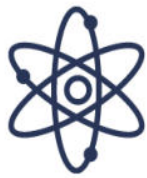


the use of the microbiological preparation "Ecobacter". On the root systems of white saxaul (*Haloxylon persicum*) seedlings, the amount of simple clavate mycorrhiza was 38.6%, forked - 32.8% and complex coral - 28.6%

REFERENCES

- 1) Cultivation of saxaul seedlings in forest nurseries [Electronic resource] / Novitskiy ZB, Fimkin VP, Borovkov AV, Tairbergen Yu.A. 2014. Access mode: 16.03.2018 <http://agronews.uz/ru/information/rastenievodstvo/sadovodstvo/538-vyrashchivanie-seyantsev-saksaula-v-lesnykh-pitomnikakh>
- 2) Shamsutdinov Z.Sh., Ubaydullaev Sh.R., Shamsutdinov N.Z., Nasiev B.N. The productivity of herbaceous plants in the phytogenic field of black saxaul in the Karnabchul desert / *Arid ecosystems*, 2014, volume 20, No. 3 (60), - p. 48-58.
- 3) Selivanov I.A. Mycosymbiotophism as a form of consortium ties in the vegetation cover of the Soviet Union. Moscow: Nauka, 1981.- 232 p.
- 4) Mycorrhiza formation in Scots pine and Siberian spruce in forest nurseries [Electronic resource] / D.V. Veselkin. 2007. Access mode: <http://mycorrhiza.narod.ru> Access date: 26.12.2019.
- 5) Eropkin K.I. On the relationship of the forms of mycorrhizal endings in conifers // *Mycorrhiza plants: interuniversity. Sat. scientific. tr. Perm and Abakan pedagogical institutes.* Perm, 1979. -P. 61-77.
- 6) Zaitsev G.N. Mathematical statistics in experimental botany. Moscow: Nauka, 1984, - 424 p.
- 7) Kopytkov V.V. New composite polymeric compositions for forest growing in the natural and climatic conditions of Belarus and Kazakhstan / V.V. Kopytkov, V.S. Kaverin, A.V. Borovkov, V.V. Kopytkov, Yu.A. Tairbergenov (Edited by Candidate of Agricultural Sciences, Associate Professor V.V. Kopytkov). Minsk: RUE Izdat. House "Belarusian Science", 2014. - 509 p.
- 8) Redko G.I. Biological bases of growing pine and spruce seedlings in nurseries / G.I. Redko, D.V. Ogievsky, E.N. Nakvasina, E.M. Romanov. Moscow: Lesnaya promyshlennost, 1983. - 64 p.
- 9) Markina Z.N., Mileschina A.V. Influence of soil and biometric indicators of Scots pine seedlings // *Fruit growing, seed production, introduction of woody plants: Proceedings of the X International Scientific Conference on October 18-19, 2007* Krasnoyarsk: SibSTU, 2007. - P. 52-54.
- 10) Maly L.P., Barsukova T.L. The reasons for the degradation of oak forests // *Problems of forestry and forestry: Collection of scientific works of the IL NAS of Belarus.* Issue 69. Gomel: IL NAS Belarus, 2009. - p. 81-88.





TRICHOGRAMMA APPLYING METHOD AGAINST CODLING MOTH

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Abstract

In recent years, the horticultural area expansion, especially due to the intensive gardens establishment, changes in the agricultural placement structure in the country requires a scientific approach to changes in the species composition of organisms formed on the basis of the food chain over the years, the introduction of new entomophagous species, protection of fruit crops from pests in horticulture, increasing the control measures importance against them.

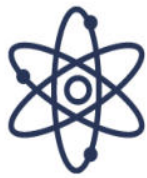
Keywords: orchard, pheromone, trichogramma chilonis, apple

Introduction

Worldwide, an average of 75.0 billion dollars is spent annually in agriculture to protect against pests and diseases. In relation to the yield grown it is observed that 13.8% of the average crop perish due to pests, 11.6% due to diseases, 9.5% due to weeds. However, as a result of modern plant protection methods application and other measures implementation, an average yield of an additional 15 c/ha is achieved from fruits, vegetables, melons and potatoes. This is far less than meeting the global population food needs for today.

Based on these decisions and resolutions, requires the important tasks solution such as the creation of varieties that are resistant to disease and need, easy to send and store in promising remote areas, organization of such gardens and vegetables and melons, especially to ensure that the product is of good quality, marketable, industrial, in general, the creation of high and quality harvesting technologies suitable for different soil climatic conditions and their introduction into production.





Proper organization of the fruits and vegetables and melons production recommended by farmers, radically improving the population demand for these products and the demand for raw materials in the processing industry will allow to reduce prices in our markets.

Codling moth (*Carpocapsa pomonella*) causes great damage to the orchards crops of our country. It is also a major pest of pears, walnuts, and plums fruit trees.

Research Material and Methods

The use of grain moths from entomophages plays a special role in the agricultural crops protection in the Republic of Uzbekistan and 60% area protected by the general biological method. *Trichogramma* is being mass-produced in more than 900 biofactory and biolaboratories in the country. According to observations on orchards, beneficial insect species and numbers were calculated. It studied predatory and parasitic entomophagous plants and their cells. It should be noted that codling moth develops in all regions of the republic by breeding 3 times (2 times in the foothills). One generation lives 4 years. In 2016-2018, we conducted research to determine the use effectiveness against codling moth (*Trihogramma chilois*) in gardens planted with varieties "Renet" Nafis "Semerenko" from From Andijan branch named after U. Mansurov of the Research center for horticulture, viticulture and enology named after Academician M. Mirzaev.

Research Results

Trihogramma chilonis is applied to 3 bushes of different sizes against 3 generations of codling moth at intervals of 3 days by 4 repetitions. Codling moth flight times are determined by pheromone traps. During the growing season, we found that there were 25-33 codling moth eggs in every 1 bush tree. We distributed the trichogrammas to 100 points per 1 hectare on trichocards (i.e. in the pupastate) in June at relative humidity 64-69% and +33°C air temperature.

In order to determine the trichogram effective consumption rate, we distributed (egg parasite) at the 1:10 1:15 1:20 ratio.





Application and effectiveness of *Trichogramma chilonis* type against codling moth (Andijan region, Andijan district, horticultural farming "Biokimyo Intensive LLC" (8.05 - 10.08. 2020).

№	Codling moth offspring	The amount of butterflies falling on the pheromone traps, average, pcs	Decrease in apple yield by generations, %	Yield per bush, average, pcs		Healthy results
				At the beginning of the season	Shedding throughout the season	
1	I	8,5	41,7		26,3	174,7
2	II	4,7	67,8	354,6	16,1	
3	III	5,4	63		18,4	
4	control	14,6	-		172,4	58,5

In 2018, the average number of first-generation butterflies falling on the traps was 9.1; 4.9 for the second generation and 6.6 for the third generation. The decrease in population by post-trichogramma parasite use was 45.5% for the first generation, 50.8% for the second generation, and 53.4% for the third generation.

At the beginning of the season, the number of fruits in one bush was 371.3, while during the season the fruits shed due to pests were 28.3 in the first generation, 14.7 in the second generation and 19.2 in the third generation. In our control variant, pest infestations averaged 211.6 units during the season.

If in our experimental variant it was 184.4 c/ha, in our control variant the yield was 54.7 c/ha. Compared to the control, the yield loss was found to be 130.2 c/ha.

Three days after the trichogramma was distributed, we conducted follow-up. In the experiment, we took into account the results observed on days 3-7-10. During our observations, the average temperature during the day is $37 \pm 1 - 29 \pm 1 \text{C}^\circ$, and the average humidity is 60-70%. On the 7th day of our experiment, the damage to the eggs showed different results. The results obtained when the trichogramma was distributed in 1:15, 1:20 ratio to the pest egg were almost indistinguishable from each other. Therefore, it is advisable to place the trichogramma in 1:15 ratio, thus applying (*Trichogramma chilonis*) against codling moth leads to a decrease in codling moth eggs. This allows you to grow a quality product without pesticide residues to preserve the crop in horticulture.



References

1. Alimukhammedov S.N., Adylov Z.K., Total research on cotton crop rotation protection from pests, diseases and weeds//Development of cotton growing science in Uzbekistan for 50 years - Tashkent;Science,-1973,p 254-278
2. Kimsanboev Kh, Nurmukhamedov D, Olmasboeva R, Rashidov M, Sulaymonov B, Yusupov A. Fertilization, storage and application of trichogram."Teacher" Tashkent 1999, p.5
3. Kimsanbaev Kh, Olmasbaeva R, Khalilov K. General and Ruraleconomic entomology."Teacher" Tashkent -2002. 2016 -219p.
4. Isashova, U. A. (2020). Leaf Miner Flies anMeasures of Fighting Against Them. Solid State Technology, 63(4), 244-249.
5. Sulaymonov, B. A., Isashova, U. A., Rakhmanova, M. K., Parpiyeva, M. Q., &Rasulov, U. S. (2019).Systematic analysis of the dominant types of entomophages in fruit orchards. Indonesian Journal of Innovation Studies, 8.
6. Anorbayev, A. R., Isashova, U. A.,Rakhmonova, M. K., &Jumayeva, A. N. (2019). Development and Harm of Liriomyza Sativa Blanchard leaf--mining
a. Flies. Indonesian Journal of Innovation Studies,
7. Rakhmonova, M.K., Khamdamov, K.K., Parpieva, M.K., &Abdullaeva, G.D.
8. METHOD OF APPLICATION OF Trichogram Against codling moth. Zbiórartykułów naukowych recenzowanych.,





CHEMICAL FIGHTING AGAINST COLORADO BEETS ON POTATOES

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Annotation

The growth of the world's population requires the growing demand for food products, the expansion of agricultural lands and the uninterrupted supply of high quality products. The most dangerous pest of the Colorado potato beetle is the oligophagous insect. It causes serious damage to potatoes. The chemical method is the most effective method in the fight against this pest. The article states that high biological efficiency was achieved against the Colorado potato beetle using Deltasis 2.5% e.c., - 0.2 l / ha.

Keywords: Potato, Colorado, larva, pest, plant, growth, pest, beetle, mature breed, oligophag, biological efficiency, detsis, entolucho.

Калит сўз Картошка, колорадо, личинка, зарарланиш, ўсимлик, ривожланиш, зараркунанда, қўнғиз, етук зот, олигофаг, биологик самарадорлик, детцис, энтолуcho.

Аннотация

Дунё аҳоли сонининг ўсиши озиқ-овқат маҳсулотларига бўлган талабнинг йилдан-йилга ортиб бориши, қишлоқ хўжалик экин майдонларини янада кенгайтириш ва юқори сифатли маҳсулотлар билан узлуксиз таъминлашни тақозо этмоқда. Колорадо қўнғизи картошканинг энг хавфли зараркунандаси олигофаг ҳашарот ҳисобланади. У картошкага жиддий зарар келтиради. Ушбу зараркунандага қарши курашда кимёвий усул энг самарали усул ҳисобланади. Мақолада колорадо қўнғизига қарши Делтасис 2,5 % эм.к,-0,2 л/га қўлланилиб юқори биологик самарадорликка эришилганлиги келтирилган.





Аннотация

Дунё аҳоли сонининг ўсиши озиқ-овқат маҳсулотларига бўлган талабнинг йилдан-йилга ортиб бориши, қишлоқ хўжалик экин майдонларини янада кенгайтириш ва юқори сифатли маҳсулотлар билан узлуксиз таъминлашни тақозо этмоқда. Ҳар йили картошканинг 6-6,5 фоиз ҳосилини зараркунандалар туфайли нобуд бўлади. Республикамизда картошкани кўпгина ҳаммахўр зараркунандалар билан бир қаторда ихтисослашган турлар ҳам зарарлайди. Картошка етиштириш, ҳосилдорликни ошириш, картошка зараркунандаларини биоэкологик хусусиятларини ўрганиш ва уларга қарши кураш усулларини такомиллаштириш каби устувор йўналишларда илмий тадқиқотлар олиб бориш бугунги кунда долзарб вазифалардан бири ҳисобланади.

Колорадо қўнғизи қаттиқ қанотлилар ёки қўнғизлар (Colophtera). Булар тури сони жиҳатдан энг катта туркумдир. Қўнғизларнинг 250 га яқин тури маълум. Характерли хусусиятлари уларнинг биринчи жуфт қанотлари қаттиқ қанот қалқонларга ёки эмитраларга айланганлиги бўлиб, тинч ҳолатида орқа томонига ёпишиб туради ва уларнинг остки юкланган иккинчи жуфти пардақанотлар жойлашади. Айни вақтда қанот қалқонларнинг бири иккинчисига зич тақалиб тўғри чок чизиғи ҳосил қилади. Оғиз аппарати кемирувчи типда, личинкалари чувалчангсимон ёки комподезсимон. Ғумбаги эркин ҳаракатсиз. Колорадо қўнғизи биоэкологияси, қарши кураш чоралари, озиқланиши, зарар келтириши тўғрисида кўп маълумотлар берилган бўлсада, Ўзбекистон шароитида олимлар томонидан ҳозирги кунда ҳам изланишлар олиб борилмоқда.



1- Расм колорадо қўнғизи зарари

Колорадо қўнғизи денгиз сатҳидан 1700-2000 метр баландликлардаги пастликлар ва тепаликлардаги текисликларда ҳам тарқалишини қайд этилган.



Қуртлар 4 ёшида овқатни жуда кўп истеъмол қилади. Бу даврда 1-2 ёш қуртларнинг иккаласидан 2,5 барабар кўп озуқани истеъмол қилади. Урғочи қўнғизлар эркак қўнғизларга нисбатан 2 марта кўп озуқа ейди. Айниқса кечалари кундузгига нисбатан кўп озуқа истеъмол қилади.

10 та қўнғиз 30 кунда 34-43 гр яшил майсани истеъмол қилади. Хулоса қилиб айтганда қурт ва қўнғизлар 25-30 % баргни йўқ қилади. Шу энтомологлар томонидан таъкидланишича бир она қўнғиздан тарқалган авлод 3 марта тўлиқ насл берса ўртача 500 тадан тухум қўйиб 2,5 гектар майдондаги картошкани тўлиқ нобуд қилиши мумкин. Колорадо қўнғизи картошканинг эртапишар навларини кечпишарларига нисбатан кўпроқ зарарлайди. Урғочи қўнғиз одатда 400-800 та кўпи билан 2400 тагача тухум қўяди. Қўнғиз тухумларининг ўзи озикланадиган ўсимлик баргининг пастки томонига айниқса картошка баргига 20-30 тадан қилиб қўяди. Колорадо қўнғизининг эмбрионал ривожланиш даври асосан температура шароитига боғлиқ бўлиб, 5-20 кунгача давом этади. Баъзи бир вақлари умртқасизлар учун йиртқич ҳисобланади (масалан визилдоқ қўнғизлар, кокцинелликлар, малхамчалар ва бошқалар), биологик курашда катта аҳамиятга эга.



2- Расм Илмий тадқиқот ишлардан фотолавлар

Колорадо қўнғизига қарши кураш бўйича тажрибалар. Пестицидларнинг ҳар хил турларини, қўнғизларига ва қуртларига таъсир этиши хусусиятлари ўрганилди. Бу мақсадда тажриба қўйидаги вариантларда бажарилди.

Тажриба вариантлари

1. Назорат (пестицид пуркалмаган).
2. Делтасис 2,5 % эм.к.- 0,2 л/га.
3. Энтолучо 20 % эм.к.- 0,3 л /га.



Инсектицидлар колорадо қўнғизининг ривожланишига қараб (1-2%) зарарланганда ёки қўнғизлар ёппасига урчиганда махсус пуркагич “маторли кўл аппаратида ҳамма тажриба вариантларида бир кунда пуркаш йўли билан ишлов берилади. Пестицидларнинг ишчи аралашмалари сарфи эса, ҳамма вариантларда бир хил кўрсаткичда 300 л/га ҳисобида олинади. Пестицидларнинг биологик самарадорлик кўрсаткичлари Аббот формуласида аниқланди.

$$C = (A - B / A * 100) \%$$

C-биологик самарадорлик %

A-ҳашаротнинг ишлов беришдан олдинги миқдори дона.

B-ҳашаротнинг пестицидлар билан ишлагандан кейинги миқдори, дона.

100-фоиздаги ифодаси.

Пестицидларнинг биологик самарадорлиги ҳар қайси вариантнинг ўртачасидан келиб чиқиб алоҳида-алоҳида аниқланди.

1-жадвал. Тажрибадаги инсектицидларнинг колорадо қўнғизига таъсири.

№	Вариантлар	Тажриба даги ўсимликлар сони, дона		Кузатув ўтказилган кунларда қўнғизлар сони ўртача, 5-ўсимликда			Ўртача %	Биологик самарадорлик %	
		Ишлов берилган 10	Ҳисоб ўтказилган	Химоялашдан олдин	Химоялашдан кейинги кунлар				
					3	7			15
1	Назорат (пестицид пуркалма-ган)	Қўнғизлар	18,5	21,5	25,9	30,1	-	-	
		Личинка	17,3	25,6	33,4	46,5	-	-	
2	Делтасис 2,5% эм.к.- 0,2 л/га. (тажриба)	Қўнғизлар	18,5	1,8	1,3	1,1	1,4	92	
		Личинка	17,3	1,7	1,5	1,2	1,5	91	
3	Энтолучо 20% эм.к.- 0,3 л/га. (андоза)	Қўнғизлар	18,5	2,7	2,5	2,3	2,5	86	
		Личинка	17,3	2,9	2,6	2,5	2,6	85	

Қўлланилган пестицидларнинг биологик самарадорлик натижалари жадвалда ҳолида келтирилган бўлиб, улар қўйидаги кўринишда пестицидлар таъсирида колорадо қўнғизи личинка ва қўнғизларга таъсирини ўрганилди.



Тажриба вариантимида Хашарот қўнғизлари ишлов беришдан олдин 18,5 донани ташкил қилаётган бўлса пестицид қўлланилгандан 15 кун ўтиб ўртача 1,4 дон қолди биологик самарадорлик эса 92 % ни ташкил қилди. Хашарот личинкалари ишлов беришдан олдин 17,3 донани ташкил қилаётган бўлса пестицид қўлланилгандан 15 кун ўтиб ўртача 1,5 дон қолди биологик самарадорлик эса 91 % ни ташкил қилди. Андоза вариантимида Хашарот қўнғизлари ишлов беришдан олдин 18,5 донани ташкил қилаётган бўлса пестицид қўлланилгандан 15 кун ўтиб ўртача 2,5 дон қолди биологик самарадорлик эса 86 % ни ташкил қилди. Хашарот личинкалари ишлов беришдан олдин 17,3 донани ташкил қилаётган бўлса пестицид қўлланилгандан 15 кун ўтиб ўртача 2,6 дон қолди биологик самарадорлик эса 91 % ни ташкил қилди.

Хулоса ўрнида шуни айтиб ўтиш жойизки картошкада каларадо қўнғизи энг кенг тарқалган зараркунанда ҳисобланиб ушбу зараркунандага қарши кимёвий препаратлардан Делтасис 2,5 % эм.к,- 0,2 л/га қўланилса юқори натижадалга эришиш мумкин бўлади.

Фойдаланилган адабиётлар рўйхати

1. Хамроев А.Ш, Ж.А Азимов, М.И.Рашидов, Сабзавот экинлар зараркунандалари Тошкент-2002й
2. Хўжаев.Ш.Т Ўсимликларни зараркунандаларидан уйғунлашган ҳимоя қилиш, ҳамда агротоксикология асослари. Тошкент “Наврўз” 2014
3. Хўжаев.Ш.Т Ўсимликларни зараркунандаларидан уйғунлашган ҳимоя қилишнинг замонавий усул ва воситалари. Тошкент-2015





DIAGNOSTIC POSSIBILITIES OF USES IN POLYKYSTOSIS OF KIDNEYS

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Abstract

The article presents the results of examination of 4 patients with polycystic kidney disease. It is noted that ultrasound methods are the most informative in the diagnosis of this pathology. The clinical course of polycystic disease was characterized by low symptoms. With all the severity of morphological changes, kidney function suffered slightly. The possibility of a dynamic change in the size and content of cysts throughout life is assumed, as well as the presence of a congenital defect in connective tissue in familial polycystic kidney disease.

Keywords: polycystic disease, ultrasound diagnostics, kidneys

Polycystic kidney disease is a disease that replaces the renal parenchyma with a large number of cysts of various sizes. The disease is referred to as abnormalities in the structure of the kidneys. At the moment, polycystic disease occurs, according to various authors, up to 1: 350 autopsies. Hereditary transmission of polycystic kidney disease is observed in 10% of cases. The disease is inherited in an autosomal dominant





manner, and is often combined with malformations of other organs - liver, lungs, spleen, etc. The life expectancy of patients with polycystic disease is about 20 years from the moment of diagnosis, however, timely and comprehensive treatment of the disease can increase the life expectancy of patients by 10-15 years.

Within a month, we identified two cases of familial polycystic kidney disease, and a total of four patients were studied, of which two women, 42 and 43 years old, a 20-year-old man and a 14-year-old girl. The examination included laboratory diagnostics (general and biochemical blood and urine tests, urine tests according to Nechiporenko and Zimnitsa, Reberg's test), ECG, ultrasound examinations (ultrasound of the kidneys, abdominal organs and echocardiography), magnetic resonance imaging and excretory urography. In both cases, the disease was inherited through the maternal line, however, there are clearly traced signs of autosomal dominant inheritance - all children get sick, polycystic kidney disease was diagnosed in many maternal relatives, regardless of gender.

As an illustration, here are the case histories of two patients:

1. Patient M., 43 years old. The diagnosis of polycystic kidney disease was first exposed in 2007, at the age of 42, at the time of being in the cardiology department of the city hospital of Bratsk with a diagnosis of ischemic heart disease.

Progressive angina pectoris. Symptomatic arterial hypertension. In the objective status: palpation in the projection of both kidneys are tumor-like formations, there is a pronounced arterial hypertension up to 260/140 mm. rt. Art. From the anamnesis it was found that from childhood she was observed for chronic pyelonephritis, which was often exacerbated. The mother, maternal uncle, nephews and cousin were diagnosed with polycystic nocturnal disease. Laboratory data: a decrease in the concentration function (in the Zimnitsky sample, the specific gravity is in the range 1002-1011), the predominance of nocturnal diuresis over daytime. Rehberg test and level blood creatinine in the normal range, minimal proteinuria Electrocardiographically determined left ventricular hypertrophy. Examination of the fundus revealed angiopathy of the retinal vessels, a symptom of Salus-II. Echocardiography - symmetric left ventricular hypertrophy, prolapse of the mitral and tricuspid valves with the presence of 2nd degree regurgitation.

2. Patient Z., 14 years old. Polycystic kidney disease was first diagnosed at the age of 4 years. At the time of the study, there were frequent pulling pains in the lower back, some weakness, rapid fatigue. Objectively: asthenic constitution, the formation in the projection of the left kidney is palpable, a systolic murmur is heard in the heart with a separation from the I tone with the epicenter at Botkin's point and at the apex. The family nature of the disease is traced: polycystic disease was detected in the mother





and brother, the maternal grandmother died at a young age from kidney disease. The laboratory determined a decrease in the concentration function of the kidneys (the specific gravity of urine was in the range of 1007-1012, the prevalence of night diuresis over daytime). Content, creatinine, urea and other biochemical parameters within the limits of permissible fluctuations.

Ultrasound diagnostic data were found to be quite similar in all cases. Ultrasound revealed an increase in both kidneys, more on the left (in all patients). While the length along the length of the right kidney was within the range of up to 13.7 cm, it was not possible to estimate the true size of the left kidney - the length exceeded the size of the ultrasound sector. In the structure of both kidneys, multiple thin-walled fluid formations were noted - cysts,

caking in the projection of both the parenchyma and the calyx-pelvis apparatus. The size of the formations varies in the range of 1.2-3.5 cm. In older persons (women 42 and 43 years old), the cystic elements are quite homogeneous, their size is in the range of 2.0-3.3 cm, hyperechoic areas can be traced between the cysts parenchyma. On the contrary, in the kidneys of patients aged 16 and 20, hetero the genicity of cystic elements, their sizes vary within the limits of their minimum and maximum values, and the maximum size of the cyst was found in the youngest patient. The parenchyma of the kidney is traced by areas of various sizes, normal acoustic density.

Magnetic resonance imaging of the kidneys reveals an increase in size and volume, mainly of the left kidney (the length of the kidney grows 20 cm). In both organs, formations (cysts) of various sizes (up to 30x35 mm) with clear contours and a well-defined capsule are determined. When determining the signal intensity in patients of different ages, the data differ somewhat (the determination of the signal intensity weighed in water was used). Thus, in a 14-year-old patient, the signal intensity in most formations is an order of magnitude higher than the parenchymal one, but three formations with moderate signal hypointensity were observed. A study of the signal intensity in patients aged 42-43 years revealed a heterogeneous hypointense signal, and areas of hyperintensity were revealed between the cysts, which may indicate the presence of sclerotic changes in the parenchyma. It should be emphasized that regardless of the age of the patients, the heterogeneity of signals from cystic formations is clearly defined, which may indicate different contents of the cysts (for example, different concentrations of substances).

X-ray changes typical of polycystic kidney disease were observed in all patients during intravenous urography. In particular, the polycyclic contours of the kidneys, uneven expansion of the cervical portions of the cups were revealed. The pelvis are compressed, their edges take the shape of the wings. Some calyx necks bend around





the cysts. An analysis of the dynamics of changes in the excretory urogram in a 42-year-old patient (the comparison was made with the urograms of five years ago) determines a clear negative trend: the size of the kidneys increased, signs of compression of the pelvis-calyx complex increased.

The data obtained in the study of other organs and systems deserve special consideration.

The presence of left ventricular hypertrophy with systolic overload according to ECG data, the detection of retinal vascular angiopathy and Salus symptoms 1-11 can be interpreted as signs of a complication of polycystic disease - arterial hypertension. Echocardiographic examination revealed the presence of prolapse of the mitral and tricuspid valves of the II degree with regurgitation in the left and right atria, respectively. During the analysis of excretory urograms, anomalies of the musculoskeletal system development expressed in varying degrees and combinations were revealed. All patients were found to have binuclear discs (L4-L5; L5-8]), a change in the tropism of the intervertebral articular processes, non-closure of the arches of the vertebrae, partial or complete sacralization.

Based on the results of the observation of a group of four people, it is premature to draw final conclusions, but the revealed patterns allow us to draw some conclusions that can be a subject of discussion and a starting point for deeper research.

With all the variety of modern diagnostic methods, we consider it necessary to note that ultrasound diagnostics should be recognized as the most informative. It is also important that this method requires the least material costs. The importance of other medical imaging methods used in our institution is somewhat less important. The value of intravenous urography increases when assessing the dynamics of changes in the size of the kidneys and the state of the pyelocaliceal system. Evaluating the significance of magnetic resonance imaging, it should be noted that the method allows obtaining a large amount of various information, but its main part is currently of purely scientific interest and does not have sufficient clinical significance.

Attention is drawn to the lack of symptoms of the disease. The clinical picture becomes vivid with the appearance of complications, in particular, arterial hypertension. Hypertension manifests itself at a fairly mature age and has features of malignancy: early appearance of left ventricular hypertrophy, vascular disorders, changes in the fundus. We consider it necessary to emphasize that with all the severity of morphological changes and the presence of complications, renal function is not enough, its impairment does not exceed grade I CRF in reducing the concentration function. Nitrogen release remains intact.



The detection of a pronounced variability of cystic elements according to the data of ultrasound scanning and magnetic resonance imaging in younger patients and a smaller fluctuation in size in older patients suggests a transformation in the size of the cysts during life. Based on the same data, the formation of new elements over time is not excluded.

The data obtained with magnetic resonance imaging are of undoubted interest. The detection of different signal intensities from cysts allows us to assume a different composition of the contents of the elements. It can be assumed that there is a different concentration of the electrolyte composition, or about protein content. Revealing the pronounced heterogeneity of the signal in younger patients (the signal varies from initial hyperintensity to hypointensity) and hypointense signals in older patients serves as the basis for the assumption of a dynamic change in the contents of the cysts in the process of vital activity. It should be emphasized that the assumptions made are based only on the results of magnetic resonance imaging and have not yet been confirmed by other methods.

In all examined patients, in the study of organs and systems, in addition to the pathology of the kidneys, anomalies in the development of the musculoskeletal system were revealed - binuclear discs, anomalies in the tropism of the intervertebral articular processes, non-closure of the vertebral arches. The picture is complemented by the prolapse of the mitral and tricuspid valves, revealed by echocardiography, of a significant degree of severity with the presence of regurgitation. Comparing the above facts, we consider it legitimate to assume. that with familial polycystic kidney disease, there is a congenital defect in the development of connective tissue.

Literature

1. Ataeva S.Kh., Ravshanov Z.Kh., Ametova A.S., Yakubov D.Zh. Radiation visualization of chronic joint diseases. Central Asian journal of medical and natural sciences, volume 2 issue 2 March-april 2021 P.12-17
2. Hamidov O.A., Diagnostics of injuries of the soft tissue structures of the knee joint and their complications. European research. Moscow. October 2020. № 1 (37). P. 33-36.
3. Khamidov O. A., Khodzhanov I. Yu., Mamasoliev B.M., Mansurov D.Sh., Davronov A.A., Rakhimov A.M. The Role of Vascular Pathology in the Development and Progression of Deforming Osteoarthritis of the Joints of the Lower Extremities (Literature Review). Annals of the Romanian Society for Cell Biology, Romania, Vol. 25, Issue 1, 2021, Pages. 214 – 225





4. Khamidov O.A., Mirzakulov M.M., Ametova A.S., Alieva U.Z. Multispiral computed tomography for prostate diseases. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.9-11
5. Khamidov O.A., Normamatov A.F., Yakubov D.Zh., Bazarova S.A. Respiratory computed tomography. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.1-8
6. Khamidov O.A., Urozov U.B., Shodieva N.E., Akhmedov Y.A. Ultrasound diagnosis of urolithiasis. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.18-24
7. Khodzhibekov M.X., Khamidov O.A., Mardieva G.M. Verification of radiation methods in diagnostics of injuries of the knee joint intra-articular structures. International Journal of Pharmaceutical Research. 2020:13(1), p. 302-308.
8. Mardiyeva G.M., Khamidov O.A., Yakubov D.J., Turdumatov Zh.A. Ultrasound Semiotics of Baker cysts. European science review, Austria, № 1-2 2019, January - February. Volume 2. - P.166-168
9. Rustamov U.Kh., Urinboev Sh.B., Ametova A.S. Ultrasound diagnostics of ectopic pregnancy. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.25-28
10. Turdumatov J.A., Mardieva G.M. Clinical and X-ray peculiarities of the course of chronic obstructive pulmonary disease in combination with diabetes mellitus. European Journal of Molecular & Clinical Medicine ISSN 2515-8260, Volume 07, Issue 02, 2020. P. 3008-3028
11. Мардиева Г.М., Муродуллаева Д.М., Хамидов О.А. Ультразвуковая верификация синовита у больных артрозом коленного сустава. Научно-методический журнал «Достижения науки и образования» (Иваново, Россия). № 16 (70), 2020. Стр.54-59.
12. Мардиева Г.М., Хамидов О.А., Якубов Д.Ж., Оллаберганов М.И. Возможности лучевых методов исследования повреждений мягкотканых структур коленного сустава. БИЛОГИЯ В.А. ТИББИЁТ МУАММОЛАРИ №4 (104) 2018. С. 197-201. Самарканд
13. Турдуматов Ж.А., Ахмедов Я.А. Лучевые методы диагностики хронической обструктивной болезни легких. «Тенденции и перспективы развития науки и образования в условиях глобализации»: Сб. науч. трудов. Переяслав-Хмельницкий. 2019. № 44. С. 534-537
14. Турдуматов Ж.А., Мардиева Г.М. Верификация хронической обструктивной болезни легких методом лучевой диагностики. Журнал биомедицины и практики. Специальный выпуск-2. С. 779-784.





15. Турдуматов Ж.А., Мардиева Г.М. Aspects of verification of radiation diagnostics of chronic obstructive lung disease. Ежемесячный научный журнал «Евразийский союз ученых (ЕСУ)». 2020. №3 (72), 3 часть. С. 42-45
16. Хамидов О.А. Оптимизация лучевой диагностики повреждений мягкотканых структур коленного сустава и их осложнений Американский журнал медицины и медицинских наук, Америка, 2020, 10 (11) - С. 881-884
17. Ходжибеков М.Х., Хамидов О.А. Обоснование ультразвуковой диагностики повреждений внутрисуставных структур коленного сустава и их осложнений. №3 (31), 2020. С.526-529.
18. Якубов Д.Ж., Муродуллаева Д.М., Хамидов О.А., Мардиева Г.М. Ультразвуковое исследование при повреждение мягкотканых структур коленного сустава. Научно-методический журнал «Достижения науки и образования» (Иваново, Россия). №2 (56), 2020. - С.96-99.





THE HISTORY OF THE DEVELOPMENT OF RADIATION DIAGNOSTICS

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Annotation

An ancient Latin proverb says: "Diagnosis cetra - ullae therapiiae fundamen-tum" ("A reliable diagnosis is the basis of any treatment"). For many centuries, the efforts of doctors have been aimed at solving the most difficult task - to improve the recognition of human diseases. The need for a method that would allow to look inside the human body without damaging it was enormous, although not always realized. What a great benefit a direct examination of the human body would bring if it suddenly became "transparent"! And hardly any of the scientists of the past could have imagined that this dream is quite feasible.

Keywords: X-RAY, ultrasound diagnostic, computed tomography, MRI, PET

The story begins in 1895, when Wilhelm Konrad Roentgen first registered the darkening of a photographic plate under the action of X-rays. He also discovered that when X-rays pass through the tissues of the hand, an image of the bone skeleton is formed on a photographic plate. This discovery became the world's first medical imaging technique. The first X-ray image was taken in the 19th century.





Less than a month after the publication of Roentgen on January 20, 1896, doctors of the city of Dartmund (USA), using "his" rays, saw a broken arm. Three months after the discovery of Roentgen, Italian physicist Enrico Salvioni created the first fluoroscopic apparatus, which consisted of an X-ray tube and a fluorescent screen on one side and an eyepiece on the other. The person was placed between the X-ray tube and the screen, on which the image could be seen even in an un-dark room. Later, instead of classical fluoroscopy, X-ray television transmission was used, in which X-rays fall on the URI (X-ray amplifier), which includes an image intensifier (image intensifier). The resulting image is displayed on the monitor screen.

In 1919, physician Carlos Huser (Argentina) carried out the first X-ray examination of the vascular system with intravenous administration of a contrast agent. Potassium iodide was used as a contrast agent, due to which the vessels became opaque to X-rays. In 1927 g.

The method of X-ray angiography, which is still used today, was first developed and implemented: the Portuguese doctor Egas Moniz obtained an image of the cerebral vessels. In the 50s. XX century X-ray surgery is actively developing. Some surgical procedures can be performed under X-ray guidance, reducing the invasiveness of the procedure.

In the 20s. of the last century, the standard radiation loads required to obtain high-quality images were determined. The use of special lead screens has become mandatory for research. The requirements are becoming more and more stringent: since its appearance (in 1931), the permissible radiation exposure during the study has decreased by more than 10 times. X-ray diagnostics has firmly entered the practice of doctors, becoming a universal method for diagnosing various pathologies of the human body.

In 1946, at a meeting dedicated to the 50th anniversary of radiology, the well-known Soviet clinician and healthcare organizer N.N. Priorov said: "What would become of phthiology and urology, gynecology and otolaryngology, neurology and oncology, surgery and orthopedics, ophthalmology and traumatology, if only to deprive them of what radiology has given in the field of diagnosis and treatment? "

The further development of radiology led not only to the improvement of technology, but also to the rapid development of various directions in radiology, as well as methods for studying various organs and systems. The branches of diagnostics began to emerge for almost every branch of medicine: roentgenosteology, roentgenocardio- and angiology, roentgenopulmonology, roentgenogastroenterology, roentgenohepatology, neuroradiology, roentgenourology and roentgenonephrology, obstetric and gynecological roentgenology, roentgenomammology.





Conventional radiography remains the primary method of primary examination. This is due to the low radiation dose on the patient and the low cost of the study in comparison with other methods with a rather high information content. Devices for radiography are being improved, devices with digital image processing have reduced the dose of radiation by an order of magnitude, increasing the quality of the image, which has become possible to undergo computer processing, to store it in memory. The need for X-ray film and archives has disappeared. Now you can transfer images over cable networks, process them on a monitor.

It was impossible to foresee the astonishing speed of the introduction of scientific and technological progress into classical X-ray diagnostics, but it was the new horizons of X-ray research that opened with the creation of digital technologies, which made it possible dozens of times to reduce the dose of radiation and to increase the information content of the image by the same amount, improve its quality, expand the scope and reduce the cost of the procedure. The period of radiology XXI century has come a.

Spiral scanning technology has significantly reduced the time spent on CT examination and significantly reduced the radiation exposure of the patient.

The fundamental difference between MSCT and spiral tomographs of previous generations is that not one, but two or more rows of detectors are located along the circumference of the gantry.

In 1992, the first 2-slice (2-helix) MSCT tomographs with two rows of detectors appeared, and in 1998 - 4-slice (4-helical) tomographs with 4 rows of detectors, respectively.

They allow not only obtaining images, but also making it possible to observe physiological processes in the brain and heart in almost "real time". The results of these studies later formed the basis for the development of devices for emission computed tomography.

Magnetic resonance imaging method. The MRI method has gone beyond laboratory research quite recently - in the early 80s. and to date, the development of computer and measuring technology and the emergence of the latest technologies for creating homogeneous magnetic fields have put it on a par with CT methods, and in some cases brought it to the first place.

In 1952 Bloch and Purcell received the Nobel Prize for the independent discovery of nuclear magnetic resonance (NMR) in 1946. In 1950 - 1970. magnetic resonance techniques have been developed and used for the chemical analysis of molecules. In 1971, Raymond Damadian showed that the relaxation times of normal tissue and



cancerous tumors differ, motivating scientists to seriously consider magnetic resonance as a diagnostic method.

The magnetic resonance device was demonstrated by Paul Lauterbur. He used the mathematical apparatus of inverse transformations used in CT. Lauterbur obtained the world's first 2D NMR image of two glass capillaries filled with liquid in 1973. However, this image took 4 hours and 45 minutes.

At the moment, more than 30 thousand MRI scans have been installed around the world, performing 60 million examinations per year. More than 70% of the MRI fleet is made up of models with superconducting magnets (0.5 - 3.0 T).

Positron emission tomography method. The principle of PET is based on the phenomenon of registration of 2 oppositely directed gamma rays of the same energy resulting from annihilation. The annihilation process occurs when a positron emitted by the nucleus of a radionuclide (radioisotope) meets an electron in the patient's tissues.

Radiopharmaceuticals (RFPs) used in PET are substances involved in various metabolic processes. In the production of RFP for nuclear medicine, some atoms are replaced by their isotopes.

A specific feature of RPs used in PET is that short-lived radioisotopes are used in their production, which must be produced in the immediate vicinity of the research site.

The first clinical PET scans appeared in the early 70s. of the last century and were imperfect: they were equipped with a small number of detectors, there was no possibility of simultaneous collection of information for several sections, the thickness of the sections was large.

However, the lack of the ability to detail anatomical structures, according to PET, could not delay the spread of the technique in clinics. The method made it possible to obtain truly functional images based on selected metabolic chains. Initially, it was assumed that the main application of PET would be cardiology, but now more than 90% of research is oncology. The possibilities of PET for diagnostics in neurology are expanding.

The rapid development of PET is due to the fact that every year a large number of new radiopharmaceuticals appear, the use of which opens up new horizons for the use of this method of radiation diagnostics. It is the choice of a suitable RPP that allows PET to study such different processes as metabolism, transport of substances, ligand-receptor interactions, gene expression, etc. The use of RPPs belonging to different classes of biologically active compounds makes PET a fairly universal tool in modern medicine. Therefore, the development of new radiopharmaceuticals and effective



methods for the synthesis of already proven drugs is currently becoming a key stage in the development of the PET method.

To date, PET is mainly used positron-emitting isotopes of the elements of the second period of the periodic table: carbon-11 ($T_{1/2} = 20.4$ min), nitrogen-13 ($T_{1/2} = 9.96$ min), oxygen-15 ($T_{1/2} = 2.03$ min), fluorine-18 ($T_{1/2} = 109.8$ min). At the same time, PET makes it possible to quantify the distribution of radioactivity per milliliter or gram of body tissue.

Maximum intensity projection (MIP) image of a PET study.

The PET method is constantly being improved, new radiopharmaceuticals, clinical packages for research and the tomographs themselves appear. All major manufacturers of medical diagnostic equipment have developed and produce PET combined with CT scanners. These systems provide functional data (PET images) and anatomical data (X-ray CT images) in a single study.

Ultrasound examination (ultrasound). One of the most popular and informative methods of radiation diagnostics are ultrasound studies. The study of ultrasound is a branch of acoustics. The parameters characterizing ultrasound are, first of all, the frequency of oscillations per second (the unit of measurement is Hz). So, for the ultrasound range, this figure is over 16,000 Hz. The next 2 interrelated indicators characterizing ultrasound (like any other wave radiation) are wavelength and propagation velocity. There is an inverse relationship between these indicators. The amplitude of the ultrasonic wave oscillations (at the same frequency) characterizes the power of the ultrasonic energy.

The nature of the propagation of ultrasound through a particular medium depends on the ultrasound resistance (impedance). When passing through a homogeneous medium, the path of the ultrasound beam is a straight line. When reaching the boundary of media with different densities (ie, ultrasonic resistance), part of the ultrasound is reflected, while the other continues to propagate through this medium. The greater the difference in ultrasound resistance, the stronger the degree of ultrasound reflection. The second factor affecting the degree of ultrasonic reflection is the angle of incidence of the beam on interface between media: the greater the angle approaching the straight line, the stronger the degree of reflection.

The first attempt to make phonograms of the human body dates back to 1942. The German scientist Dussile "illuminated" the human body with an ultrasonic beam and then measured the intensity of the beam that passed through the body (Mühlhauser's X-ray technique). At the beginning of the 50s. XX century American scientists Wild and Haury were the first and quite successfully used ultrasound in a clinical setting. They focused their research on the brain, since X-ray diagnosis is not only difficult,





but dangerous. Obtaining such information using X-rays takes about an hour, which is highly undesirable in a serious patient's condition.

According to the principle of operation, all ultrasonic devices are divided into 2 groups: echo pulse and Doppler. Group I devices are used to determine anatomical structures, to visualize and measure them. Devices of the II group make it possible to obtain a kinematic characteristic of rapidly proceeding processes - blood flow in vessels, heart contractions. However, this division is arbitrary. There are installations that make it possible to simultaneously study both anatomical and functional parameters. Three methods of ultrasound diagnostics are most widely used in clinical practice: 1-dimensional examination (echography), 2-dimensional examination (scanning, sonography) and Doppler ultrasonography.

The image obtained during the examination may differ depending on the operating modes of the scanner. The following modes are distinguished:

- A-mode (amplitude) - one-dimensional method gives information about the distances between tissue layers along the path of the ultrasound pulse;
- B-mode (bright) - provides information in the form of two-dimensional gray-scale tomographic images of anatomical structures in real time, which makes it possible to assess their morphological state;
- M-mode (motion) - one-dimensional image, the second coordinate is replaced by a time one. The vertical axis is the distance from the sensor to the structure to be located, and the horizontal is the time. The mode is used mainly for examining the heart. Provides information about the shape of the curves reflecting the amplitude and speed of movement of cardiac structures.

Doppler study. Doppler echocardiography can measure blood flow velocity and turbulence.

In recent years, the combination of sonography and Doppler sonography (duplex sonography) has acquired particular importance. With it, both an image of the vessels (anatomical information) and a recording of the blood flow curve in them are obtained (physiological information).

There is no doubt that the future belongs to radiation diagnostics in improving the quality and level of diagnostic work, reducing the time of diagnostic studies. At the same time, I would like to especially emphasize that the importance of other diagnostic methods: instrumental, endoscopic, etc. is no less important. The art of diagnostics is not in opposing and prioritizing some research method, but in the ability to choose the most appropriate, informative diagnostic method in each specific case. And often this is one of the methods related to radiation diagnostics.



It is necessary to note the main problems of radiation diagnostics at the present time: lack of material and technical base both for training specialists and for purchasing equipment that meets modern diagnostic requirements; the current education system in the field of radiation diagnostics and radiation therapy does not provide adequate training for a qualified specialist; lack of your own clinic; weak technical base, significant radiation exposure; low diagnostic level; outdated organizational and methodological schemes of work and educational and methodological programs; combination of brilliant modern tomography technology with outdated X-ray diagnostic equipment

CONCLUSIONS

1. It is necessary to update the outdated organizational and methodological schemes of work, since in our country the interest in traditional radiology remains at a low level.
2. With the current status of training a radiologist (radiation diagnostician), it is difficult to teach him all modern methods of radiation diagnostics, so the principle of training should be the basis for the reform of postgraduate education.
3. The problem of comprehensive diagnostics and comprehensive education cannot be solved without fully equipping the department of radiological diagnostics in medical institutions and clinics of medical universities with 400 beds and more. In addition to traditional X-ray rooms, ultrasound rooms, lithotripsy units, modern angiographic complexes, CT and MRI are needed.

LITERATURE

1. Abalmasov VG Experience of using magnetic resonance imaging in the diagnosis of thyroid pathology / V. G. Abalmasov, T. D. Evmenova, S. V. Moshneguts // Visualization in the clinic. - 2000 .-- S. 22 - 24.
2. Agranat BA Fundamentals of physics and technology of ultrasound / B. A. Agranat, M. N. Dubrovin, N. N. Khavsky. - M.: Higher school, 1987 .-- 235 p.
3. Ataev A. G. Diagnostic algorithm temporomandibular joint diseases (advanced medical technology). -M., 2007 .-- 15 p.
4. Ataeva S.Kh., Ravshanov Z.Kh., Ametova A.S., Yakubov D.Zh. Radiation visualization of chronic joint diseases. Central Asian journal of medical and natural sciences, volume 2 issue 2 March-april 2021 P.12-17
5. Belenkov Yu. N. Clinical application of magnetic resonance imaging with contrast enhancement / Yu. N. Belenkov, S. K. Ternovoy, O. I. Belichenko. - M.: Vidar, 1996 .-- 111 p.





6. Genina E. A. Ultrasonic methods of diagnosis and treatment in modern medicine / E. A. Genina and V.V. Petrov // Vestn. radiology and radiology. - 1998.- S. 52 - 54.
7. Hamidov O.A., Diagnostics of injuries of the soft tissue structures of the knee joint and their complications. European research. Moscow. October 2020. № 1 (37). P. 33-36.
8. Khamidov O. A., Khodzhanov I. Yu., Mamasoliev B.M., Mansurov D.Sh., Davronov A.A., Rakhimov A.M. The Role of Vascular Pathology in the Development and Progression of Deforming Osteoarthritis of the Joints of the Lower Extremities (Literature Review). Annals of the Romanian Society for Cell Biology, Romania, Vol. 25, Issue 1, 2021, Pages. 214 – 225
9. Khamidov O.A., Mirzakulov M.M., Ametova A.S., Alieva U.Z. Multispiral computed tomography for prostate diseases. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.9-11
10. Khamidov O.A., Normamatov A.F., Yakubov D.Zh., Bazarova S.A. Respiratory computed tomography. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.1-8
11. Khamidov O.A., Urozov U.B., Shodieva N.E., Akhmedov Y.A. Ultrasound diagnosis of urolithiasis. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.18-24
12. Khodzhibekov M.X., Khamidov O.A., Mardieva G.M. Verification of radiation methods in diagnostics of injuries of the knee joint intra-articular structures. International Journal of Pharmaceutical Research. 2020:13(1), p. 302-308.
13. Mardiyeva G.M., Khamidov O.A., Yakubov D.J., Turdumatov Zh.A. Ultrasound Semiotics of Baker cysts. European science review, Austria, № 1-2 2019, January - February. Volume 2. - P.166-168
14. Possibilities of computed tomography and positron emission tomography in determining the status of intrathoracic lymph nodes in NSCLC // Vestn. Moscow Cancer Society. - 2006. - C. 7.
15. Radiation diagnostics (MRI, CT, ultrasound, SPECT and PET) of liver diseases: Hands. for doctors / Ed. G.E. Trufanova. - SPb. : "ELBI-SPb", 2006. - 198 p.
16. Rustamov U.Kh., Urinboev Sh.B., Ametova A.S. Ultrasound diagnostics of ectopic pregnancy. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.25-28
17. Technique for the study of the stomach on a high-field magnetic resonance imager / G. E. Trufanov, V.V. Ryazanov, M.V. Lytkin, et al. // Mater. conf. "Modern radiation diagnostics in a multidisciplinary medical institution", dedicated. 75th





anniversary of the Department of Radiology and Radiology of the Military Medical Academy. - SPb, 2004 .-- S. 290 - 291.

18. Voronov VK Nuclear magnetic resonance / V. K. Voronov // Sorosov. images. zhurn. -2005. -FROM. 45 - 48.
19. Мардиева Г.М., Муродуллаева Д.М., Хамидов О.А. Ультразвуковая верификация синовита у больных артрозом коленного сустава. Научно-методический журнал «Достижения науки и образования» (Иваново, Россия). № 16 (70), 2020. Стр.54-59.
20. Мардиева Г.М., Хамидов О.А., Якубов Д.Ж., Оллаберганов М.И. Возможности лучевых методов исследования повреждений мягкотканых структур коленного сустава. БИЛОГИЯ В.А. ТИББИЁТ МУАММОЛАРИ №4 (104) 2018. С. 197-201. Самарканд
21. Хамидов О.А. Оптимизация лучевой диагностики повреждений мягкотканых структур коленного сустава и их осложнений Американский журнал медицины и медицинских наук, Америка, 2020, 10 (11) - С. 881-884
22. Ходжибеков М.Х., Хамидов О.А. Обоснование ультразвуковой диагностики повреждений внутрисуставных структур коленного сустава и их осложнений. №3 (31), 2020. С.526-529.





FURTHER POPULARIZATION AND DEVELOPMENT OF THE NATIONAL SPORT OF WRESTLING

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Abstract:

Further development and popularization of wrestling, attracting all segments of the population to a healthy lifestyle regardless of age, fostering loyalty to the Motherland among youth, turning it into one of the favorite sports of the peoples of the world, its humane ideas of fairness, justice, tolerance is a wider promotion in the world, its commercialization through active investment in this area, as well as promotion of a real Uzbek wrestling brand.

Keywords: Wrestling, sport, national, rule, international, field, wide, human, willfully, quality, freestyle wrestling, judo, sambo.

Wrestling is a sport in which two athletes fight one on one according to set rules. The art of wrestling has been known to many nations since ancient times. Wrestling was especially popular in Greece, where it was a regular element of the ancient Olympic Games. Various forms of national struggle exist in Greece, Italy, Japan, Turkey, Iran, Afghanistan, Russia, Uzbekistan, Georgia, Armenia, Azerbaijan, Kazakhstan and other countries. Today there are more than 1,500 wrestling coaches in the country. Analysis shows that in some areas the number of coaches is very disproportionate to the total population. In particular, 179 people (0.009%) in the Republic of Karakalpakstan with a population of over 1.8 million, 39 people with a population of over 2.5 million in Tashkent (0.001%), 43 people with a population of over 3 million in the Andijan region (0.001% percent) correspond to the wrestling coach.





The basic rules of modern wrestling were developed in several European countries in the late 18th and early 19th centuries. In 1912 the International Amateur Wrestling Federation (FILA) was founded (it currently has 144 member countries, including Uzbekistan since 1993). Greek wrestling, freestyle wrestling, judo, sambo and other types of wrestling are widespread in the international arena. In recent years, Uzbek Kurash has also gained worldwide recognition as a separate type of Kurash. Wrestling is one of the means to develop strength, agility, endurance and willpower. Under the control of doctors it is allowed to engage in wrestling from 12 years. Archaeological finds and historical manuscripts confirm that fighting has long been an integral part of the Uzbek way of life. Cylindrical bronze age pottery found in ancient Bactria (southern Uzbekistan) depicts two wrestlers, one playing with the other. Another archaeological find from the same period shows a wrestling match. These unique findings indicate that Kurash was part of the way of our ancestors life even 1.5 thousand years ago. According to the Greek writer Claudius Elianus (2nd-3rd centuries) and other historical figures, the daughters of the Saka tribe, who lived in the area, chose a groom by fighting with the young men. Later, the girls determined the groom by placing bets, including the kurash competition. An example of this is the conditions of Barchin in the Uzbek folk epic "Alpomish". Ibn Sina wrote in "The Laws of Medicine" ("Tib qonunlari"): "There are different kinds of wrestling one of them is when one of the two wrestlers grabs his opponent's belt and pulls it while trying to get rid of his opponent....».



This definition is close to the rules of modern wrestling. Also, Makhmoud Kashgari's «Devonu lug'otit turk», Alisher Navoi's «Khamsa», «Kholoti Pakhlavon Mukhammad», Zayniddin Vosifiy's «Badoye' ul-vaqoye'», Khusayn Voiz Koshifiy's «Futuvvat-nomai sultoni», Zakhiriddin Mukhammad Babur's "Boburnoma" contain valuable information about Kurash. In the IX and XVI centuries kurash became popular among the people. During this period, the popularity of kurash increased among the Pakhlavon Makhmud and Sadik Polvon tribes.



There is also a variety of Uzbek traditional wrestling, called belt wrestling. Many archaeological finds and historical manuscripts are associated with it. A statue found in ancient Mesopotamia 5,000 years ago depicts wrestlers competing in belt wrestling. An ancient Chinese manuscript, "Tan-shu", states that weddings and festivals in the Fergana Valley would not have taken place without Kurash competitions. Akhmad Polvon, Khoja Polvon and others are famous for this type of Kurash (late XIX century - early XX century). During the imperial occupation and in Soviet times, attempts were made to artificially displace the Uzbek national kurash from people's way of life. By the end of the 1990s these attempts had been foiled. In 1991 Kamil Yusupov, a member of the Kurash dynasty and international master of sports in several types of Kurash, developed the following rules of Uzbek Kurash in accordance with international standards: Competitions wrestlers from 14x14 to 16x16 m take place on a blue-green mat Kurash with a red "danger line" on the edge. The winner will be determined by the methods used and the evaluation of their actions on the field.



Strangulation in wrestling, the use of techniques that hurt the opponent is not allowed, one of the wrestlers wear a blue jacket, the other - a green jacket (women - a white T-shirt inside the jacket), 4-5 cm wide belt (belt)), men compete in weight categories over 60, 66, 73, 81, 90, 100 kg and over 100 kg, women - in weight categories over 48, 52, 57, 63, 70, 78 and 78 kg (children, weight categories are also determined by age in competitions grimaces, teenagers, adults and girls). The 2003 congress of the International Wrestling Association (IKA) in Tashkent set the official competition time to 3 minutes to ensure that every match would be intense.



The methods used are rated as "half-hearted," "sideways," and "fair," and violators of the rules are punished with "reprimands," "scolding" and "unfair". If a wrestler gets a "fair" rating (or his opponent is punished "unfairly"), it means that he has won. Getting a "side" rating twice (or getting "scolding" twice) also means winning. Taking into account the "incomplete" points victory is awarded to the wrestler with the most points, the number of wrestlers with the same number of penalties and fines are equal, if the number of penalties are equal, the last penalized loser is considered the loser, loser if all are equal and not imposed a penalty, the winner will be declared by a majority vote of judges.



In 1992 the Kurash Federation was established in Uzbekistan, and in 2001 the Kurash Belt Federation was established in Uzbekistan. In September 1998, representatives of 28 countries (USA, Bolivia, Great Britain, Netherlands, Russia, Uzbekistan, Japan, etc.) became founders of the International Kurash Association (IKA) in Tashkent. The Decree of the President of the Republic of Uzbekistan "On Support to International Kurash Association" (February 1, 1999) gave impetus to further development of Uzbek national Kurash. In the same year, the first world championship in Uzbek Kurash was held in Tashkent, and in Bryansk (Russia) - the international women's tournament. The International Kurash Academy and the World Kurash Development Foundation were established under the IKA, and the magazine Kurash was created under the auspices of the association. Literary-artistic, socio-publicistic, informational and advertising magazine has been published in Tashkent since October 1999. In 2000, the month of Kurash was held in Uzbekistan. About 2 million people came out on the Kurash mat this month. The traditional international competition named after honorary President IKA Islam Karimov was established in Great Britain. In 2001, the International Wrestling Institute (Tashkent) was established. The IKA consists of 66 national federations (2003). European, Asian, Pan American and oceanic wrestling confederations were formed. Currently, more than 600,000 people practice Uzbek Kurash abroad. Uzbekistan regularly hosts world, continental and national championships and championships in this kind of wrestling, as well as many international competitions in memory of al-Termizi, Pakhlavon Makhmud and many others. Uzbekistan currently has 22 Olympic reserve schools, 37 children's and youth sports schools, and 206 Kurash schools. There are more than 100 wrestling clubs at universities, and wrestlers are trained by 851 coaches (2003). In 2003, the Olympic Council of Asia included this type of wrestling in the program of the Asian Games. Bakhrom Anazov, Isok Akhmedov, Makhtumkuli Makhmudov, Kamol Murodov, Toshtemir Mukhammadiyev, Akobir Kurbanov (Uzbekistan), Kubashkhanim Elknur, Selim Totar uglu (Turkey), Alexander Katsuragi, Carlos Honorato (Brazil), Pavel Melananets (Poland), Khiroyoshi Kashimoto (Japan) and others took part in the World Wrestling Championships and were the winners and prize-winners.

Reference

1. Yusupov K., Kurash, T., 1999; Muminov A., Prezident. Sport. Victory!, T., 2001.
2. Azizov N.X. Belt Turkestan wrestling. - Tashkent: Teacher, 1998.
3. Borisov K. npaKraxa hand-to-hand combat. Textbook Edited by .2003
4. Salomov R.S. Theoretical foundations of sports - Tashkent., Uzbek State Institute of Physical Culture, 2005 – p. 238.





5. Goncharova O.V. Development of physical abilities of young athletes Tashkent, Uzbek State Institute of Physical Culture 2005 – p.171.
6. Judo wrestling. A. A. Absatarov. A. A. Istomin. Tashkent Economy and Finance.1993.





ULTRASOUND EXAMINATION IN THE DIAGNOSIS OF FETAL MACROSOMIA

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Abstract

Fetal macrosomy is an obstetric complication that occurs in 10% of all pregnancies and is associated with severe complications for both the mother and the fetus. Ultrasound examination provides information about the state of the fetus, but the degree of significance of individual parameters for predicting PMF is not fully understood. Early detection of macrosomia markers can influence further tactics in relation to mother and fetus, and improve perinatal outcomes.

Keywords: ultrasound fetometry, macrosomia, estimated fetal weight.

Macrosomia in most literature is considered a birth weight > 4000 g and occurs in 10% of pregnancies. This condition is associated with risks for both the mother and the fetus: an increase in the frequency of cesarean section (CS), traumatization of the birth canal, shoulder dystocia (DP) and perinatal asphyxia. The American Association of Obstetricians and Gynecologists (ACOG) defines macrosomia as birth weight > 4500 g, since it is after this value that the incidence of postpartum complications





increases significantly. According to an alternative approach, macrosomia is considered to be an increase in actual or estimated weight above the 90th or 95-97th percentile for a given gestational age.

Birth weight depends on many factors: genetic, environmental and constitutional, metabolic disorders, gender, ethnicity, currently there are normative values even for specific ethnic groups. The data showed that the likelihood of developing fetal macrosomia is influenced by previous large-fetal delivery, parity, diabetes mellitus, father's body mass index (BMI), male fetal sex, and overall weight gain during pregnancy.

Gestational diabetes mellitus (GDM) is a known clinical risk factor for fetal macrosomia and accounts for 90% of all types of diabetes observed during pregnancy. In women with GDM, fetal macrosomia is the main complication, which, together with others, is an indication for elective CS in order to reduce potential perinatal complications. Macrosomia of diabetic origin is characterized by a disproportionate distribution of subcutaneous fat (SFA) in the fetus with a predominant localization in the upper half of the body, which contributes to an increase in the likelihood of shoulder dystocia (DP) and damage to the brachial plexus.

Brachial plexus injury is the most common complication of childbirth. According to numerous studies, the incidence of trauma to the brachial plexus ranges from 4 to 40%. In 10% of cases of brachial plexus injuries, lifelong disability remains. Clavicle and humerus fractures occur in 10.6% of DP cases and usually recover without complications. Hypoxic brain damage was noted in 0.5-23% of cases. The risk of PD is about 0.2% in medium-sized fruits. With a weight of 4000-4500 g, this risk increases to about 5%, and with a weight above 4500 g, it is about 30%.

Attempts to identify the factors that necessarily lead to DP and allow in practice to take preventive measures were unsuccessful. In most cases, the reasons are reduced to macrosomia. Macrosomia occurs quite often, while DP does not always develop. The assumptions that ultrasound measurement of fetal weight and more accurate measurement of the width of the shoulder girdle will help to accurately predict LTP have not been confirmed. Even if it is possible to accurately establish the PMF, the LF prediction remains highly inaccurate.

The choice of delivery method for pregnant women with GDM and fetal macrosomia is determined taking into account the increased risk of perinatal mortality (PS) and perinatal morbidity (PZ), in addition, the risk of postpartum hemorrhage and fourth degree perineal rupture increases.

The detection of macrosomia in uncomplicated pregnancy according to ultrasound fetometry varies from 15% to 79%, clinically from 40% to 52%. The accuracy of the





aggregate (clinical and with the help of ultrasound diagnostics) diagnosis slightly exceeds 60%.

When assessing the standing height of the uterine fundus and abdominal circumference, it is not always possible to determine the PMP accurately enough. Likewise, ultrasound assessment of PMF can be inaccurate. Overestimation of fetal weight leads to a significant increase in the frequency of CS. There are more than 30 different formulas for determining PMP. However, the search for the most reliable formulas continues. According to Coomarasamy et al., When comparing the diagnostic value of different formulas, the best "result" was obtained with a sensitivity of 45% and a specificity of 81%. According to Mongelli and Benzie, who compared 18 formulas for determining fetal macrosomia, some formulas were found to be inadequate to diagnose macrosomia, while others show high false-positive rates. Poon et al. demonstrated a 34% diagnostic accuracy for fetal macrosomia with 10% false positives. To improve the accuracy of ultra Sound assessment of PMF requires standardization of the measurement technique and the search for additional parameters to improve the diagnostic accuracy of ultrasound.

Diagnostics of macrosomia of diabetic genesis has a number of features, since in this case there is an asymmetric growth of the fetus with an excess of muscle and adipose tissue in the upper half of the body: in the scapular region, in the region of the anterior abdominal wall, which increases the risk of DP in comparison with the fetus with macrosomia of non-diabetic genesis ... In addition, fetuses of mothers with diabetes have an increased risk of PS and PZ (metabolic disorders, morphological and functional immaturity, etc.), so they need more careful ultrasound monitoring. It is important to note that the recommendations of the UK National Institutes of Health (NICE) consider the possibility of initiating hypoglycemic therapy in the presence of ultrasound signs of development of diabetic fetopathy and fetal macrosomia.

Recommendations include measuring the thickness of soft tissue in the shoulder, thigh and anterior abdominal wall. Based on the fact that adipose tissue in this particular location undergoes the greatest changes as the fetus grows, the work of M. Scioscia et al. demonstrated not only a strong correlation between the thickness of the VLC and the PMF, but also proposed a new formula for calculating the PMF. At the same time, other studies have shown a good correlation between the thickness of the pancreas during prenatal assessment with the thickness

Postnatal VFA, however, when studying the relationship between soft tissue thickness and PMF (based on the combined consideration of head circumference, abdomen and femur length), no advantages of this method for antenatal detection of macrosomia were demonstrated.





Sharing soft tissue measurements with PMF could improve the prediction of macrosomia compared to any isolated method. In addition, an antenatal magnetic resonance imaging (MRI) measurement of the shoulder girdle has been shown to correlate well with shoulder width at birth; this can serve as an additional marker for predicting LTP in fetuses with macrosomia. However, MRI is a more expensive diagnostic method than ultrasound. Monitoring fetal growth is an important part of prenatal diagnosis. Despite the inaccuracy, ultrasound diagnostics allows you to identify fetuses with abnormal growth and affects the decision about the timing and method of delivery.

Despite the fact that fetal macrosomia is associated with a 2-3-fold increase in the risk of PS and PZ, there is not enough research in the literature on how prenatal ultrasound monitoring should be carried out when fetal macrosomia is suspected, especially in patients without diabetes. The difficulty lies in the lack of data on the diagnostic accuracy of macrosomia markers.

Ultrasound is the most widely used method for diagnosing macrosomia, although studies show lower accuracy in predicting the weight of a large fetus compared to determining normal weights. Many authors argue that dynamic fetometry is more accurate in determining PMF.

The main factors influencing the inaccuracy in the conclusions are: the inaccuracy of the formulas for calculating the PMF, inaccuracies of technical measurements.

Other factors that increase the error are maternal obesity, lack of water, poor quality equipment and inadequate qualifications of an ultrasound doctor. Measurement of the fetal abdominal circumference is of greatest importance in assessing fetal weight. Evaluation of PMP has a significant impact on further obstetric tactics, since the risk of complications for both the mother and the fetus increases with increasing fetal weight. Therefore, it is extremely important for the physician to have at his disposal other sonographic approaches, including formulas for calculating the PMF for fetuses over 4,500 g, in order to keep system errors to a minimum. Because tissue ratios can vary greatly, differences in birth weight can be significant among fetuses with similar biometric parameters. On average, body fat is 14% of birth weight, but the percentage can be much higher. Adipose tissue undergoes major changes when conditions associated with accelerated or decreased growth are present. Mothers with diabetes with poor glycemic control are at increased risk of having a fetus with macrosomia and a high volume of subcutaneous fat. With the help of ultrasound diagnostics, it is possible to assess the amount of subcutaneous fat in the fetus, which will provide a better assessment of normal and abnormal growth. Measuring the thickness of the soft tissue in the hip and shoulder area is a simple method for estimating the amount





of fat and predicting the birth weight of a newborn. This method has two main advantages: firstly, it has good reproducibility and, secondly, it is based on linear 2D measurements, which can be adequately obtained even by novice ultrasound specialists.

Fetal macrosomia is an obstetric complication that occurs in 10 % of all pregnancies and is associated with severe complications for both the mother and the fetus. Ultrasound examination provides information about the state of the fetus, but the degree of significance of individual parameters for predicting PMF is not fully understood. Early detection of macrosomia markers can influence further tactics in relation to mother and fetus, and improve perinatal outcomes.

LITERATURE

1. Ataeva S.Kh., Ravshanov Z.Kh., Ametova A.S., Yakubov D.Zh. Radiation visualization of chronic joint diseases. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.12-17
2. Baskett TF, Andrew A. Calder EA et al. Operational obstetrics by Manro Kera. 146-16G.
3. Hamidov O.A., Diagnostics of injuries of the soft tissue structures of the knee joint and their complications. European research. Moscow. October 2020. № 1 (37). P. 33-36.
4. Hill M.G., Cohen W.R. Shoulder dystocia: prediction and management. Womens Health (Lond). P251-261
5. Khamidov O. A., Khodzhanov I. Yu., Mamasoliev B.M., Mansurov D.Sh., Davronov A.A., Rakhimov A.M. The Role of Vascular Pathology in the Development and Progression of Deforming Osteoarthritis of the Joints of the Lower Extremities (Literature Review). Annals of the Romanian Society for Cell Biology, Romania, Vol. 25, Issue 1, 2021, Pages. 214 – 225
6. Khamidov O.A., Mirzakulov M.M., Ametova A.S., Alieva U.Z. Multispiral computed tomography for prostate diseases. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.9-11
7. Khamidov O.A., Normamatov A.F., Yakubov D.Zh., Bazarova S.A. Respiratory computed tomography. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.1-8
8. Khamidov O.A., Urozov U.B., Shodieva N.E., Akhmedov Y.A. Ultrasound diagnosis of urolithiasis. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.18-24





9. Khodzhibekov M.X., Khamidov O.A., Mardieva G.M. Verification of radiation methods in diagnostics of injuries of the knee joint intra-articular structures. *International Journal of Pharmaceutical Research*. 2020:13(1), p. 302-308.
10. Mardiyeva G.M., Khamidov O.A., Yakubov D.J., Turdumatov Zh.A. Ultrasound Semiotics of Baker cysts. *European science review, Austria*, № 1-2 2019, January - February. Volume 2. - P.166-168
11. Nkwabong E, Nzalli Tangho GR. Risk Factors for Macrosomia. *J. Obstet. Gynaecol. India*: P226-229.
12. Rustamov U.Kh., Urinboev Sh.B., Ametova A.S. Ultrasound diagnostics of ectopic pregnancy. *Central Asian journal of medical and natural sciences*, volume 2 issue 2 March-april 2021 P.25-28
13. Spain J.E., Frey H.A., Tuuli M.G. et al. Neonatal morbidity associated with shoulder dystocia maneuvers. *Am. J. Obstet.* 2014.
14. Мардиева Г.М., Муродуллаева Д.М., Хамидов О.А. Ультразвуковая верификация синовита у больных артрозом коленного сустава. *Научно-методический журнал «Достижения науки и образования» (Иваново, Россия)*. № 16 (70), 2020. Стр.54-59.
15. Мардиева Г.М., Хамидов О.А., Якубов Д.Ж., Оллаберганов М.И. Возможности лучевых методов исследования повреждений мягкотканых структур коленного сустава. *БИЛОГИЯ В.А. ТИББИЁТ МУАММОЛАРИ №4 (104) 2018*. С. 197-201. Самарканд
16. Хамидов О.А. Оптимизация лучевой диагностики повреждений мягкотканых структур коленного сустава и их осложнений *Американский журнал медицины и медицинских наук, Америка*, 2020, 10 (11) - С. 881-884
17. Ходжибеков М.Х., Хамидов О.А. Обоснование ультразвуковой диагностики повреждений внутрисуставных структур коленного сустава и их осложнений. №3 (31), 2020. С.526-529.
18. Якубов Д.Ж., Муродуллаева Д.М., Хамидов О.А., Мардиева Г.М. Ультразвуковое исследование при повреждении мягкотканых структур коленного сустава. *Научно-методический журнал «Достижения науки и образования» (Иваново, Россия)*. №2 (56), 2020. - С.96-99.





US-DIAGNOSTICS FOR INFERTILITY

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Abstract

The article reflects the modern concepts of ultrasound diagnostics in infertility. Summarized data on modern techniques are presented. Topical issues of the most common causes of infertility are considered.

Keywords: 3D, 4D, ultrasound, anovulation, persistence, luteinization, hysterosonography.

Infertility is one of the most common gynecological problems. In Uzbekistan, 1.5 million out of 12 million women of reproductive age suffer from infertility.

The frequency of infertile marriages, according to data from foreign and domestic authors, is 8-17% and has no tendency to decrease. Every year, 2-2.5 million new cases of male and female infertility are registered in the world.

Infertile marriage, having a significant impact on demographic indicators, acquires not only medical and biological, but also social significance. The nature of changes in demographic indicators makes the problem of infertile marriage one of the most important in modern medicine practically throughout the entire territory of RUZ.





Distinguish between primary infertility, when from the very beginning of sexual activity there has never been a pregnancy, and secondary infertility, when, after the previous one or more pregnancies (childbirth, abortion, ectopic pregnancy), subsequent pregnancy does not occur. It is also customary to distinguish absolute female infertility associated with irreversible pathological changes in the genitals, excluding any possibility of conception, and relative, when the cause that caused it can be eliminated. Infertility can also be a sign of a number of common diseases and diseases of the genital organs.

Ultrasound is a must in diagnosing the causes of female infertility. Currently, the capabilities of the method have significantly expanded, which is associated with the introduction into clinical practice of the 3D ultrasound technique, which provides a multifaceted volumetric image of the object under study and its layer-by-layer study. Anovulation is one of the most common causes of infertility. The use of 3D ultrasound can identify the ovarian follicular apparatus, conduct accurate monitoring of the growth and maturation of the dominant follicle in a stimulated cycle in patients with infertility. The lack of growth and formation of a dominant follicle during dynamic observation indicates the insufficiency of the follicular phase of the menstrual cycle. Follicle persistence is characterized by anovulation with prolonged functioning of the dominant follicle and its transformation into a follicular cyst.

Non-ovulatory follicle luteinization syndrome occurs in 12-31% of cases of infertility. When monitoring folliculogenesis in the second phase of the cycle, a gradual decrease in the size of the dominant follicle without rupture is noted, secretory transformation occurs in the endometrium, i.e. there is an imitation of a two-phase cycle in the absence of ovulation.

Insufficiency of the luteal phase is a dysfunction of the ovaries, characterized by hypofunction of the corpus luteum of the ovary. The incidence of luteal phase failure is 3-25%. At the same time, ovulation occurs, the corpus luteum is formed.

In case of insufficiency of the luteal phase, the peripheral vascular rim is not expressed or is poorly expressed, which makes it possible to fix a 3D-angiography. This situation leads to an inadequate secretory transformation of the endometrium, a change in the function of the fallopian tubes, a violation of the implantation of a fertilized egg, which is clinically manifested by infertility, or spontaneous miscarriage in the first trimester of pregnancy.

For the onset of pregnancy, in addition to successful fertilization, it is necessary to create conditions from the endometrium for the purpose of further implantation. It is known that one of the factors of infertility can be a violation of nidation and blastocyst implantation.





30 ultrasound allows you to more accurately assess the state of the endometrium in different phases of the menstrual cycle, identify characteristic signs with incomplete secretory transformation and determine pathological changes in its structure. In the phase of secretion in women with full secretory transformation and the absence of focal disorders, the endometrium is homogeneous, hyperechoic. Additional echo structures in the uterine cavity are not detected.

Inadequate secretory transformation of the endometrium is observed in women with endocrine infertility. The structure of the endometrium is significantly different from the norm. Insufficient echogenicity of the endometrium and the severity of the hypoechoic rim surrounding the endometrium are revealed. Also, the characteristic signs include the inconsistency of the volume of the endometrium with the phase of the menstrual cycle, the heterogeneity of the echogenicity of the endometrium and the lack of smoothness of the contour of the tubal corners of the uterus.

To ensure a full secretory transformation of the endometrium and its proliferation, an adequate blood supply to the myometrium is necessary. Violations of uterine vascularization lead to various structural and functional changes in the endometrium. 30 Ultrasound angiography can provide an assessment of the vascularization of the myometrium and endometrium in general. Anovulatory cycles are characterized by a constant increase in peripheral resistance indices in the uterine arteries, which leads to a decrease in uterine perfusion due to vasoconstriction.

The volume of the endometrium is an important prognostic factor of conception and is normally 2 cm³ or more. The calculation of the volume of the endometrium is carried out in patients in the middle of the menstrual cycle, on the days when the embryo is transferred to the uterus using ART.

In the structure of female infertility, the tubal-peritoneal factor is 60-70%. Organic lesions of the fallopian tubes include: obstruction, adhesions, torsion. Their reasons may be: inflammatory diseases, pelvic or general peritonitis, surgery on the internal genital organs, postpartum complications, polyps and endometriosis of the fallopian tubes, as well as other factors of external endometriosis.

Hysterosonography (HSG) is one of the main diagnostic methods for suspected obstruction of the fallopian tubes. With its help, you can also get information about the adhesion process in the small pelvis. However, the frequency of false negative GHA results is 13-17%.

A conventional transvaginal ultrasound is preliminary performed. Then the cervix is exposed using mirrors and, after the vagina has been treated with an antiseptic solution, a catheter is inserted into the cervical canal behind the internal pharynx. A balloon intrauterine catheter for the HSG is used. The expansion of the cervical canal



is not required. When the catheter is installed, the speculum is carefully removed and the probe is inserted into the vagina, according to the position of the uterus in the anterior or posterior fornix. Then, physiological solution is injected through the catheter, achieving adequate expansion of the uterine cavity (5-30 ml). The ingress of air bubbles into the uterine cavity significantly complicates the study due to the appearance of artifacts. With the HSG, information on the passage of fluid through the fallopian tube can be obtained with energy Doppler mapping of the fallopian tube. 3D-mode allows you to avoid the disadvantages of the usual 2D ultrasound of the fallopian tubes, when there is one segment of the fallopian tube in the scanning plane or

only one fallopian tube, providing the ability to simultaneously visualize the uterine cavity and fallopian tubes while collecting the entire amount of data.

In terms of sensitivity and specificity, transvaginal echohysterosalpingography is not inferior to hystero-graphy, and in some cases even surpasses it.

4th-hysterosonography refers to modern diagnostic methods and allows in real time in a three-dimensional spatial structure to obtain an image of the uterine cavity to identify foci of endometriosis, to assess the condition of existing myometrial scars, and to study the bases of subserous and submucous uterine nodes using a contrast agent. According to the sonometric parameters, the volume of the uterine cavity is calculated and the required amount of contrast agent for injection into the cavity is calculated, then, after the bolus injection of the calculated volume of hydrogen peroxide, the absence of reverse flow of contrast is ensured and the rate of appearance and the nature of propagation of the sonocontrast agent in the area of myometrial scars is assessed in real time. in the myometrium, along the parietal and visceral peritoneum.

Unlike routine methods of visualization of the uterine cavity using X-ray contrast agents, this method is not allergenic, does not cause anaphylactic reactions, in addition, X-ray contrast agents do not have an antiseptic effect and the patient is exposed to radiation at the time of the study. Unlike other substances used to visualize the uterine cavity during sonographic studies, the contrast agent used provides greater informational content due to interaction with biological fluids (contents of endometrioid passages), stability of the compound, which determines an extended time interval for the study.

Among the known methods of ultrasound diagnostics of endometriosis, endometrial scars, subserous and submucous nodes, the proposed method is distinguished by high diagnostic reliability, increasing the accuracy of the ultrasound examination of the uterus.





One of the new and promising techniques is 3-contrast magnetic resonance hysterosalpingography, which allows visualizing the uterine cavity, obtaining direct visualization of the fallopian tubes, assessing their patency and examining the extra-tube factor of infertility.

In case of obstruction of the fallopian tubes, the effect of sactosalpinx occurs - the accumulation of contrast agent in the lumen of the sealed fallopian tube, which makes it possible to accurately diagnose the level and degree of obstruction.

With the help of ultrasound, it is possible to identify adhesions in the presence of fluid or enclosed cavities in the small pelvis. Signs of the adhesive process are: shortening of the vaginal vaults, incorrect position of the fallopian tubes, a change in the position of the uterus in the small pelvis, displacement of the uterus, uneven distribution of free fluid in the postovulatory phase of the cycle.

The presence of free fluid in the posterior space facilitates visualization of adhesions and deformations of the contours of the posterior fornix. In the presence of adhesions and adhesions, the contours of the posterior fornix d malformed, there are asymmetries, retractions and irregularities with the formation of asymmetric cavities. Free fluid around the ovaries in the lateral vaults in the postovulatory phase contributes to the identification of the adhesive process around the ampulla of the fallopian tubes.

Conclusion

A complete echographic picture of cyclic transformations is achieved by dynamic research, but a single ultrasound scan at the first visit of a patient to an ultrasound office for infertility gives a fairly detailed picture of the anatomical and morphofunctional state of the reproductive sphere, sufficient for clinicians to develop a further plan for a comprehensive examination and the first steps in organizing treatment.

Literature

1. Ataeva S.Kh., Ravshanov Z.Kh., Ametova A.S., Yakubov D.Zh. Radiation visualization of chronic joint diseases. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-aprel 2021 P.12-17
2. Gazhonova V.E., Terskaya L.V., Savinova E.B. et al. Three-dimensional echography in identifying the causes of female infertility. Wedge Known 2004; 1: 39-43.
3. Grebesheva I.I., Kamsyuk L.G. Reproductive health of the population of Russia. Family planning. 2000; 3-4: 3-8.





4. Hamidov O.A., Diagnostics of injuries of the soft tissue structures of the knee joint and their complications. European research. Moscow. October 2020. № 1 (37). P. 33-36.
5. Khamidov O. A., Khodzhanov I. Yu., Mamasoliev B.M., Mansurov D.Sh., Davronov A.A., Rakhimov A.M. The Role of Vascular Pathology in the Development and Progression of Deforming Osteoarthritis of the Joints of the Lower Extremities (Literature Review). Annals of the Romanian Society for Cell Biology, Romania, Vol. 25, Issue 1, 2021, Pages. 214 – 225
6. Khamidov O.A., Mirzakulov M.M., Ametova A.S., Alieva U.Z. Multispiral computed tomography for prostate diseases. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.9-11
7. Khamidov O.A., Normamatov A.F., Yakubov D.Zh., Bazarova S.A. Respiratory computed tomography. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.1-8
8. Khamidov O.A., Urozov U.B., Shodieva N.E., Akhmedov Y.A. Ultrasound diagnosis of urolithiasis. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.18-24
9. Khodzhibekov M.X., Khamidov O.A., Mardieva G.M. Verification of radiation methods in diagnostics of injuries of the knee joint intra-articular structures. International Journal of Pharmaceutical Research. 2020:13(1), p. 302-308.
10. Mardiyeva G.M., Khamidov O.A., Yakubov D.J., Turdumatov Zh.A. Ultrasound Semiotics of Baker cysts. European science review, Austria, № 1-2 2019, January - February. Volume 2. - P.166-168
11. Medvedev M.V., Khokhlin V.L., Zykin B.I. Possibilities of echohysteroscopy in the diagnosis of intrauterine pathology. Ultrasound diagnostics. 1998; 2:35.
12. Rustamov U.Kh., Urinboev Sh.B., Ametova A.S. Ultrasound diagnostics of ectopic pregnancy. Central Asian journal of medical end natural sciences, volume 2 issue 2 March-april 2021 P.25-28
13. Savelyeva G.M., Bloshansky Yu.M., Lobova T.A. Reproductive health of the population of Moscow and measures to improve it. Family planning. 2000; 1: 3-5.
14. Zubarev A.V. New ultrasound techniques and echocontrast drugs. Echography. 2000; 1 (1): 41-44.
15. Мардиева Г.М., Муродуллаева Д.М., Хамидов О.А. Ультразвуковая верификация синовита у больных артрозом коленного сустава. Научно-методический журнал «Достижения науки и образования» (Иваново, Россия). № 16 (70), 2020. Стр.54-59.





16. Мардиева Г.М., Хамидов О.А., Якубов Д.Ж., Оллаберганов М.И. Возможности лучевых методов исследования повреждений мягкотканых структур коленного сустава. БИЛОГИЯ В.А. ТИББИЁТ МУАММОЛАРИ №4 (104) 2018. С. 197-201. Самарканд
17. Хамидов О.А. Оптимизация лучевой диагностики повреждений мягкотканых структур коленного сустава и их осложнений Американский журнал медицины и медицинских наук, Америка, 2020, 10 (11) - С. 881-884
18. Ходжибеков М.Х., Хамидов О.А. Обоснование ультразвуковой диагностики повреждений внутрисуставных структур коленного сустава и их осложнений. №3 (31), 2020. С.526-529.
19. Якубов Д.Ж., Муродуллаева Д.М., Хамидов О.А., Мардиева Г.М. Ультразвуковое исследование при повреждение мягкотканых структур коленного сустава. Научно-методический журнал «Достижения науки и образования» (Иваново, Россия). №2 (56), 2020. - С.96-99.





ANALYSIS OF THE CURRENT STATE OF THE LEXIC RESOURCE, FORMED WHEN TEACHING THE ENGLISH LANGUAGE IN PRESCHOOL INSTITUTIONS

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Annotation

The article is devoted to the analysis of domestic and foreign educational and methodological complexes aimed at teaching preschoolers the English language, for the introduction of CILIL technology in these textbooks - as a means of forming and replenishing the vocabulary of preschoolers. At the beginning of the article, the methodology of integrated learning is considered and textbooks are analyzed for the implementation in them of all four components of the CILIL technology: content, communication, cognition and culture. The following describes the advantages of educational complexes, the degree of implementation of the CILIL technology in them, as well as the effectiveness of using this technique when teaching English to preschoolers.

Keywords: early learning of foreign languages, English in kindergarten, preschool education, English for the little ones, CILIL technology, integrated learning.

Introduction

Modern preschool education involves learning English at an early age. In this regard, a huge number of foreign educational and methodological modules appear, the purpose of which is to teach preschoolers this language. But, unfortunately, our country has not yet approved an educational module in English, designed for preschool children. This issue creates great difficulties in assessing the work of a foreign language teacher, and the teacher faces great difficulties in choosing the right material among the huge number of foreign textbooks. Despite the fact that there is a lot of literature for preschoolers in English on the Internet, created by experienced linguists and native speakers of English, our teachers face certain difficulties when using them in practice. These complications are as follows: 1. the national identity of our country, different from English, creates difficulties in the study of foreign material by preschoolers; 2. Teaching materials created by native speakers of English are primarily intended for children who speak English as their first language. This literature is very complicating for our children, as English is a foreign language for





them. These and other obstacles create inconvenience for teachers, and they have to choose the materials that are appropriate for the psychological, linguistic, cultural and age characteristics of preschoolers.

Main Part

As mentioned above, among all the variety of educational and methodological complexes, it is quite difficult for a specialized specialist to choose a suitable manual for conducting professional activities that would correspond to all the latest innovations and technologies of the educational process. Moreover, modern textbooks of the English language should carry out interdisciplinary communication, have a general developmental character, perform a culturological function, form vocabulary and, most importantly, implement communicative principles. After reviewing a large number of preschool institutions, as well as after talking with English teachers, we learned that many teachers use teaching materials from Russian and foreign authors in their lessons, such as: “Английский для самых маленьких” (“English for the smallest”) - an educational and methodological complex of English language for children 3-5 years old by M.E. Verbovskaya, I.A. Shishkova, “I Can Sing” - an educational-methodical complex of the English language for children 3-6 years old, authored by V.N. Meshcheryakova, “Oxford First Explorers” - an educational and methodical complex of the English language for children 5-7 years old by Charlotte Covill, Mary Charrington, Paul Shipton, “Oxford First Friends 1” - an educational and methodological complex of the English language for children 5-7 years old by Susan Iannuzzi. Below will be shown the results of the analysis of these textbooks, but first we will look through the methodology that is used in the classroom by English teachers in kindergartens.

One of the modern technologies, which was previously used to teach English to high school students and university students, is now widely used in teaching preschool children, is the CILIL methodology - Integrated Content and Language Learning - or subject-language integrated learning. Integration of a foreign language with a non-linguistic environment is a productive approach to learning another language in preschool age. At the same time, knowledge gained in other non-linguistic classes is consolidated in a foreign language lesson. CILIL technology has a beneficial effect on the formation of lexical and communication skills.

Currently, most educational and methodological complexes are already implementing the CILIL methodology in their educational program, and many of them are completely built on the principle of introducing all components of this technology into the educational process, namely, the 4 "C" of this methodology:





1. Content. The process of mastering knowledge, skills and abilities in the framework of the studied subject. CILIL - technology promotes the formation of interdisciplinary connections.
2. Communication. Language acts as a collection of communication, rather than its main purpose. The main goal of the CILIL methodology is to reduce the use of the teacher's speech and at the same time increase the speaking time of the students.
3. Cognition. It is necessary that students are involved in the process of active knowledge of the meaning of the objects and phenomena being studied. To achieve this goal, you can use knowledge that requires analytical and critical thinking, tasks for finding the main from the secondary, comparison, solution, and so on.
4. Culture. Acquisition of cultural knowledge aimed at understanding native and foreign culture, defining oneself and one's role in these cultures, forming a positive attitude towards foreign peoples.

A feature of the CILIL methodology is that proficiency in a foreign language turns into a means of studying a particular subject. At the same time, attention is focused on the content of the tasks, as well as on the necessary vocabulary related to the topic being studied. This is facilitated by well-thought-out teaching materials not only within a certain subject, but also for teaching the language as a whole: for teaching various grammatical structures and lexical units, specific types of speech activity (speaking, listening). The stages of working with pictures, visual material can contain a large number of different creative and individual tasks: description, comparison, asking questions, drawing up projects, and so on.

Thus, having dealt with the concept of CILIL technology, we will conduct a comparative analysis of educational and methodological complexes in English for preschool children for the implementation of subject-language teaching in them. Nowadays, there is a large selection of educational and methodological complexes for teaching preschoolers the English language. As part of the analysis, only four educational and methodological complexes of foreign authors, which were mentioned above, were studied.

Curriculum "English for the smallest" I.A. Shishkova and M.E. Verbovskaya is focused on classes with young children from 3 years old. This educational complex is suitable both for individual lessons at home and for group lessons in preschool institutions. This course is oral and focused on teaching children the correct pronunciation of sounds, vocabulary formation, some structures of English grammar, speaking and the development of auditory perception.

After analyzing the textbook "Английский для самых маленьких" ("English for the smallest") by I.A. Shishkova and M.E. Verbovskaya regarding the implementation of





the CILIL technology in it, the following conclusions can be drawn: this technique is fully implemented only in the aspects of cognition and the formation of lexical stock. The textbook fully complies with these points, as it is a complex of various developmental tasks aimed at the all-round development of the child. As for the other elements (content, communication and culture), they are realized only to a certain extent. The degree of implementation of the items "communication" and "culture" largely depends on the teacher, on his professional knowledge, skills and competencies as a whole.

The textbook "I can sing" by V.N. Meshcheryakova - is the zero stage of teaching children the perception of English speech by ear, the formation of an image of the English language in the child's head through repeated listening and then repeating grammatical structures and various everyday phrases. All lessons are held in a musical and game format. The entire course consists of various fun games during which the learning takes place.

Having considered the educational and methodological complex "I can sing" for the implementation of the CILIL methodology in it, we can draw the following conclusions:

- the components of the CILIL technology "communication" and "culture" and "cognition" are fully implemented in this textbook, moreover, they are the main ones in the learning process.
- aspects of the content and culture of the CILIL technology are implemented to a greater extent. However, in comparison with other textbooks, interdisciplinary connections can be more extensive and complete, the same applies to the aspect of "culture" - for a full disclosure of this moment, a more complete understanding of the country of the target language is not enough. However, here a lot depends on the teacher, since he, at his discretion, can add information about various sights of England in the form of photographs, thereby expanding interdisciplinary ties in the field of local history.

Oxford First Explorers is a colorful six-level course with many illustrations. It has many different tasks: stories, dialogues, songs, games, and so on. The program is structured in such a way that it allows you to immerse the child in the language environment thanks to real situations, similar in interests and life experiences of children of this age group. Moreover, the entire course is aimed at preparing for the passing of the Cambridge exams and tests.

The authors of the course position their textbook as fully developed in accordance with the implementation of the principles of the CILIL technology in it, since teaching and learning English is carried out in an interdisciplinary context, which contributes to





the formation and improvement of the child's lexical thinking in English. All tasks, games, role-playing and theatrical performances are performed in English. The child uses language as a means of communication, which is the purpose of this course. All exercises are aimed at the versatile development of students. Thanks to the acquaintance of children with the main characters from England and the further integration of the curriculum with the discipline of "local history", children understand their culture and the culture of another country. It can be seen from the analysis that indeed all 4 CILIL methods are fully implemented in Oxford First Explorers.

The educational and methodological complex "Oxford First Friends 1" is a modern two-level course for preschoolers, including teaching listening, reading, writing and counting. The course is based on an animated story with texts, which with its plot attracts the attention of children and does not leave them indifferent. The educational and methodological complex Oxford First Friends 1 combines a huge amount of additional informational colorful materials.

The educational and methodological complex "First Friends of Oxford 1" acts as an introduction to the English language, based simultaneously on various types of educational process: games, songs, dances, physical exercises, warm-ups, drawing, etc. The textbook provides children with useful, age-oriented vocabulary, basic simple speech structures and promotes the development of reading and writing skills.

According to expert assessments and the professional opinion of the pedagogical community, the educational and methodological complex "First Friends of Oxford 1" is also a good example of the implementation of the CILIL methodology in it. Interdisciplinary connections help children to master the material as efficiently as possible, all kinds of games, interesting characters, new friends introduce and show students the world of the English language. This is one of the motivating factors in learning any foreign language.

Conclusion

Summing up the analysis of four educational and methodological complexes of Russian and foreign authors, which are very popular among teachers of English in our country, such as: "Английский для самых маленьких" ("English for the smallest") by M. Verbovskaya, I.A. Shishkova; "I can sing" by V. Meshcheryakova; «Oxford First Explorers» by Charlotte Covull, Mary Charrington, Paul Shipton; «Oxford First Friends 1» by Susan Iannuzzi regarding the introduction of CILIL technology in them and the formation of vocabulary, it should be noted that all of the above educational-





methodological complexes implement the CILIL methodology in their educational process.

All educational and methodological complexes use in their programs the principles of interdisciplinary learning, using such disciplines as: fine arts, music, physical culture, local history, zoology, technology, anatomy and others. The communicative and lexical component of the CILIL technology is also implemented in all textbooks, only the degree of involvement varies. The cognitive function of the CILIL technique is performed to a large extent, all exercises are of a general developmental nature, enrich vocabulary, contribute to the formation of skills such as attentiveness, analytical and critical thinking, train memory, motor skills, logic, a sense of rhythm, musicality and much more.

However, it can be concluded that in the educational and methodological complexes of foreign authors, the vocabulary, as well as the CILIL technology, is implemented to the maximum extent due to two aspects of this technology - communication and culture. In the textbooks of foreign authors, the communicative orientation is expressed to a greater extent. The exception is the manual "I can sing" by V.N. Meshcheryakov, since this textbook is primarily focused on building communication with children, but in which interdisciplinary connections are poorly implemented, and, therefore, such an aspect of CILIL technology as "content" is not fully developed. As for the culturological function, the educational and methodological complexes of foreign authors, in comparison with the Russian ones, have a noticeable advantage due to the interdisciplinary connection with local history. This contributes to the expansion of the horizons, erudition, life experience of students, and most importantly develops one of the most important life skills - the ability to learn, which is undoubtedly the main goal of using CILIL technology in the educational process, as well as the formation and improvement of students' vocabulary.

Having considered the current state of teaching a foreign language in kindergartens in our country, we consider that it is necessary to create an educational and methodological complex in English for preschoolers. These guidelines may be based on the work of foreign authors founded on the CILIL methodology, but they should also take into account the rich historical, cultural and national identity of the Uzbek people.





REFERENCES

1. Laletina T.A. Integrirrovanny podkhod i ispol'zovaniye predmetno-yazykovoy integratsii pri obuchenii inostrannomu yazyku [Electronic resource]. Access mode: http://conf.sfukras.ru/uploads/3_Laletina%20T%5B1%5D.A.pdf
2. Yurasova Y.S., Gorbacheva Y.A. CILIL tekhnologiya na urokakh angliyskogo yazyka// «Tsarskosel'skiye chteniya». 2015. T1N XIX. 359-362.
3. Vanyushkina K.N., Grigor'yeva Ye.N., Sovremennyye podkhody k obucheniyu angliyskomu yazyku doskol'nikov // Voprosy lingvodidaktiki i mezhkul'turnoy kommunikatsii v kontekste sovremennykh issledovaniy: collection of scientific articles Cheboksary, 2019.S. 15-19.
4. Oxford family and friends: teaching materials of the English language for children [Electronic resource]. Access mode: <http://frenghish.ru/22-family-and-friends-1.html>
5. Oxford First Young Explorers. Educational and methodical complex of the English language for children [Electronic resource]. Access mode: http://frenghish.ru/oxford_explorers.html





SOME THOUGHT-PROVOKING PROBLEMS OF ANALYSIS OF THE CONCEPT OF MORAL OBLIGATION

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Annotation

This article provides information about duty, which is considered as a category of morality. It discusses the role of obligation in society and analyzes the views of German philosophers and scientists on this issue.

Keywords: courage, demeanor, wisdom, laws, categories, modern personnel, knowledge, positive actions, duty-mediated

INTRODUCTION

Moral duty is essentially an obligation in front of society, the state, and the individual. It is inextricably linked with concepts such as conscience, belief, and responsibility[1]. In sociology, the German philosopher E. Kant explained more about duty and moral value in his moral theory, and John Maqudel argued for Kant's theory. According to the German philosopher Kant: obligation and duty constitute the moral values of human beings. Kant concludes that whether human behavior has a moral value, every person in society should act only on the basis of duty and pay more attention to it. Kant's view is related to the notion of a man performing a duty, and is generally understood to be the performance of work in a just manner. So it is clear from this that anyone can have a moral value, it is only appropriate if he acts out of duty and understands his duty and spends his time on what is necessary.

METHODS

There is another notion that we know must be followed along with duty, which is respect. We need to pay attention to another approach of Kant. Kant has a categorical imperative approach to the observance of moral laws as a duty of respect [2]. However, John Magduel contradicts Kant's view. He comes to the conclusion that a person needs a reason to perform an action. Again, I would like to quote Gregor and Walker's ideas on the role of duty in human behavior, both philosophers prefer the concept of respect compared to the concept of duty. According to them, respect can be divided into two different types as a moral law (respect) and as a moral feeling. They see the imperative norm and respect for duty as a motive for man.





Now let's look at how the West defines the philosophy of education and the moral duty, and how it is viewed in the East. In the West, from antiquity, that is, from the time of Plato, they have been interested in the philosophy of education and have dealt with various issues, problems and solutions related to it. In the past, the following phrase was widely used by philosophers to bring up a person in Athens – not in Tebon or Corinth. At that time, Athens was a symbol of perfection. In the 5th century BC, there is a set of virtues accepted in the Greek language and vocabulary. The set of qualities that are accepted in many senses are: friendship, courage, demeanor, wisdom, justice, and duty. But there have been long-standing disagreements about what each of them requires and why each is considered a virtue. We now consider the modern Western moral philosophy of the twentieth century. During this period, it was mainly discussed about human rights and responsibilities. Persons says, “Some philosophers believe that our universal duty is all based on one rule: always treating people with respect. We must always show our kind and affectionate treatment to everyone with respect” [3]. There is a lot of debate about the concept of respect, for example the question of whether respect is a quality or a feeling that belongs to a person. The German philosopher Kant describes respect as a certain feeling. Respect, as Kant puts it in his statement of moral motivation, is the observance of the rules of morality and the encouragement of moral consciousness [4]. Stratton analyzes Kant's views and agrees with his views and leaves his own comment. In his view, value is an important duty that motivates people to help and is its maximum value. In the East, moral laws and categories have a special character. Because in Islam, special attention was paid to education. Abdullah Avloni, one of the enlighteners of Turkestan, in his book "Turkish Gulistan or Morality" says: "The development and prosperity of any nation depends on the knowledge and enlightenment, profession and art of the youth"[5]. We interpret duty as a moral concept for young people, first and foremost, a commitment to the family, community, nation, homeland. Moral duty is an important moral and spiritual duty of students, which means that each student should fulfill the duties of citizenship in front of his society, childhood in front of parents, humanity in front of the people, the nation, humanity in front of society.

RESULTS

From the above, it is clear that the parent is responsible for the upbringing of the student child, as well as for society. It is the duty of the child to respect and honor the parents, to provide for them in old age, to listen to their advice, and to do it unconditionally. The student must raise the prestige and dignity of parents in the eyes of the people. As long as the student works on himself clearly and regularly, he will





pay constant and constant attention to his ultimate goal. It should be noted that the student responds equally in all subjects. The diligent study of students in the process of learning determines its future. The thirty-first chapter of Kaikous's "Kabusnama" states: "Everyone who takes on a job should know it well and do it a lot so that he can benefit from it a lot." Don't answer until you have a problem. Do not bleed for your own imitation and do not act on the imitation of others. Look at the message and do not shy away from it, do not speak with enthusiasm" [6].

For example, the great thinker Ibn Sina quotes the following statements about thinking and science: "true knowledge of things is achieved intelligently by analyzing their appearance and determining their causes. In addition, Ibn Sina develops the stages of development of the mind. Ibn Sina understood intellect as man's innate talent, as well as the ability to think that is formed on the basis of experience and in the process of cognition. The mind defines man as a primordial, healthy mind, a force that creates and distinguishes good and bad deeds".

DISCUSSION

Speaking about the role of modern personnel in the development of Uzbekistan in the context of globalization, President Shavkat Mirziyoyev noted the following: "It is more important than ever to pay attention to spirituality and enlightenment, moral education, education of young people at the time of the pursuit of perfection in today's rapidly changing world and various new threats and challenges that threaten the stability and sustainable development of peoples"[7] That is why it is at a young age that the responsibility and duty for their work requires moral preparation, not only at other stages of education, but also from the moment they enter the system of higher education. Because the higher education stage is a door to a great life, and how to open it plays a key role through the knowledge, skills and, most importantly, the moral duty of the students. The ethical task of the learning process is to promote a culture that is close to the students.

When it comes to the existence of a moral duty in the system of higher education, first of all, the student must consider the rules of law, as well as the formation of human feelings and qualities in him. The place of moral duty and virtues in society implies the existence of man. In a person, duty can vary, the duty instructs the positive actions that the person wants to perform and is manifested through responsible and conscious actions. The approach to duty as an ethical phenomenon can be seen in all the literature to one degree or another. However, some authors tend to generalize these characters in the Duty. For example, I. Goethe defines duty as follows: How can a person understand himself? However, it can only be understood in action, not in





fantasy. Do your duty and you will understand yourself immediately. Man realizes himself not in observation but in action. He only knows who he is when he puts effort into the work that needs to be done. Universal duties are deeper in content than national duties broad, of universal significance, in line with the goals and aspirations of all nations and peoples of the world[8]. In general, it ,without manifesting itself in isolation from civilization, interacts with the issues of science development in the world, the struggle for peace, the eradication of the production and utilization of nuclear weapons, ensuring international security, prevention of various diseases, nature protection, eradication of poverty and illiteracy, providing the population with industry, energy and food, the challenges of land, water resources and space exploration in the world. Among the pedagogical tasks are self-sufficient tasks that differ in content, i.e., goal-oriented tasks, the creative nature, prestige, social significance of pedagogue work, responsibility to the state, the ability to self-determination, the duties that express love and connection to children can be highlighted.

These tasks require the interaction of the concepts of "child's personality" and "I am a professional" in the mind of the educator. Targeted tasks reflect the state educational policy and the level of development of pedagogy and emerge as a factor of pedagogical activity and affect other tasks. They form the basis of vocational education and result from the acquisition of pedagogical theory and its methodology, as well as advanced pedagogical technologies. Targeted tasks are a means of duty, and duty relationships depend on task-purpose and duty-quality.

Duty-mediated vocational education is a pedagogical activity (technology of education and upbringing), communicative movement, communication technology, subjective action of the teacher, which performs the functions of personality development, combines all three movements and is divided into groups as task-vehicle, duty-relationship, duty knowledge.

Duty-interaction provides interaction with the subject in the pedagogical process. In this case, the teacher's attitude to himself, to the person is equal.[9].

CONCLUSION

Moral duty has an imperative nature between man and society. It regulates the interdependence. Awareness of duty helps people to stay away from other memorized elements. The interrelationship of duty with other categories and qualities also play an important role in human life. Kant's ideas perceive duty as a moral value and are reflected in his remarkable investigations and practices.





REFERENCES

1. Abdulla Sher. Axloqshunoslik.-T.: "O'zbekiston faylasuflari milliy jamiyati nashriyoti" - 2010, 252-p
2. Philip Stratton Lake. Kant. Duty and Moral worth-New York.: "Routledge and New York" -2000
3. David. R. Morrou "Axloq bo'yicha matn va zamonaviy muammolar". New York.: Oxford University Press-2018
4. Philip Stratton Lake. Kant. Duty and Moral worth-New York.: "Routledge and New York" -2000
5. Abdulla Avloniy . "Toshkent tongi".-T.: G'ofur G'ulomnomidagi nashriyot"- 1979, 254-
6. Kaykovus. Kobusnoma.-T.: "Meros"-1992, 98-99-b
7. Shavkat Mirziyoyev. Milliy Taraqqiyot yo'limizni qat'iyat bilan davom ettirib, yangi bosqichga ko'taramiz.-T.: O'zbekiston-2017, 27-b
8. Philip Stratton-Lake, Kant, Duty and Moral Worth, Canada and The USA, Routledge Taylor & Francis group -, 2005.
9. Roback A.A. Intelligence and Behavior. Psychol. Review, 1992, Vol. XXIX, -P.54





THEORETICAL BASES OF INVESTMENT ACTIVITIES DURING THE TRANSFORMATION OF THE ECONOMY

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Annotation

This article envisages the development of discussions and conclusions based on the specifics of improving investment activities on the formation of the theoretical bases of investment financing.

Keywords: investment, investor, investment activities, venyordi finance, impinemed lending, security, franchise, factoring.

Access

There are many ways to carry out business, and it is necessary to explore unlimited options with this limit, on the contrary, there are different ways to control and store enterprises as an independent unity. In addition, there is a concept of alternative funding sources of alternative funding, taking into account the economic situation in the world. The study and implementation of alternative financing sources such as leasing, venic financing, sychaning and credentials, is one of the most pressing issues of the economy of the republic. Businesses are increasingly easy and are becoming more and more use of these sources to expose the most complex process of attracting investment.

Involvement of investments for the construction and reconstruction of new enterprises equipped with modern techniques and high technologies are very important. This allows for solving important socio-economic problems such as employment and income of the population. It is also developing the formation of alternative funding sources of alternative investment projects and creating the necessary conditions today.

Analysis of literature on the topic

In our country, special attention is paid to improving the efficiency of investments in enterprises and their effective work. But by the President of the Republic of Uzbekistan, by the President of the Republic of Uzbekistan Sh. Mirziyoyev, the «high rates of economic growth and growing demand for investment resources is not





harmonious. The involvement of foreign investment to the territory of the country remains in a very unsatisfactory situation».

Many economists in the field of improving alternative methods of investment activities have been scientific research.

American economists J.U.Fee, N.Len, S. Prauz, P.D. Johnson explained to Venchur capital-financing of small business-financed enterprises financing the share capital.

Dj.Frmstrong specializes in the Canadian Bank Monetary and Financial Analyzes Design Supplier: «This provides such instruments of lending, ie the participants of the financial market the opportunity to properly forecast credit risks.»

F.Sh. Karimov «seleng is a type of leasing, the application of which is determined by the rules developed by the United European leasing society. Seleng is a two-way process, a special way of responsibility.»

E.A.And by Panova, the categories of philanthropy and kraudfunding from kraudfunding were analyzed by representatives of small businesses. With kraudfunding's strengths and weaknesses identified and taking into account international experience, the prospects for developing the kraudfunding market have been explored.

In the scientific works of these economists scientists some aspects of improvement of scientific-theoretical and methodological bases of development of financing of investment activities in the Republic through non-traditional methods are covered. All this requires in-depth research on the research of the ways of development of the national economy through the non-traditional methods of investment activities on the basis of factors affecting the sources of financing and improvement of the scientific-theoretical and methodological foundations of their financial provision, the need to accelerate the processes of formation of sources of financing.

Research Methodology

In this article, scientific works of economists of Uzbekistan and foreign countries devoted to the theoretical aspects of sources of alternative financing of investments and investment activities were studied. Comparative analysis of literature and hypothesis justification methods were used as research methodology.

Analysis and Results

Today, due to various object and sub-factors, banks have remained in the top position in the accumulation and redistribution of financial resources. One of the leading market institutions capable of competing with banks in the financial sector is the capital market. Despite the transitional reforms of about thirty years in our country,





the capital market has not yet developed. As a result, companies and investors have no choice but to take advantage of alternative and competitive sources of business financing and to work with a monopolized banking system. Effectively operating capital markets allow and facilitate the attraction of financial resources by combining those who have the means to invest with those who need capital for innovation and growth.

The most important thing is that capital markets develop good corporate governance among the issuers on their list by encouraging transparency, accountability and respect for shareholders' rights. In this regard, financial services such as leasing, Franchising and faktoring, venture financing, syndicated credit, crowdfunding and crowdinvesting will soon attract the special attention of local entrepreneurs. All over the world, these services are a common denominator of attracting capital to fixed and working capital.

The franchise for our economy is currently a relatively new method of financing, which has been used in developed countries for these centuries as a means of satisfying the needs of society for a variety of goods and services.

There are three main types of franchising: brand, production and business franchising or business format franchising.

As a business concept, franchising always brings a lot of benefits to both the franchisee and the franchisor. But there are also disadvantages. When you go to the franchise, you need to take into account both advantages and disadvantages. Here it is necessary to pay attention to both sides.

Factoring is a risky but highly profitable banking operation, in which the settlement process is combined with the lending process in the form of an adequate market economy. Thanks to this, the bank creates conditions that constantly monitor the financial situation of suppliers and the solvency of customers.

Factoring can be open or closed. Given the high level of Risk-management operations, the Department decides to conclude a service contract by examining the financial situation of the potential client and its prospects. If one of the parties is a legal person of another state, then the faktore is called external.

In our republic, venture financing is carried out in accordance with the decision of the Cabinet of Ministers N^o 414 "On approval of the regulation on the activities of investment and management companies" dated May 17, 2019. This regulation defines the objectives, functions, criteria, type of activity of investment and management companies, including the procedure for monitoring investment and management companies in the implementation of venture financing, and also regulates their relationship.





In accordance with the Resolution No. 684 of the Cabinet of Ministers of the Republic of Uzbekistan “On measures to organize the activities of the UzVC National Venture Fund” on November 3, 2020 “UzVC” National Venture Fund was established in order to create innovative ideas and infrastructure to support the startup-ecosystem.

The main tasks of “UzVC” National Venture Fund:

- Develop the Venchur investment market;
- Improvement of the regulatory and legal framework of the venture ecosystem;
- Acting as a liaison agent between the private sector and the state;
- Business incubation and acceleration system development;
- Increase financial literacy on venture capital;

One of the alternative methods of financing investment activities is considered one of the Islamic financial instruments “sukuk”. Access to the Sukuk market can help improve the capital structure and liquidity profile of the joint venture companies of the countries of Asia and the Gulf.

Sukuk is Islamic bonds or certificates of investment, which provide the owner with the beneficiary's right of ownership, in accordance with the sharia, with material assets.

This means that sukuk owners receive part of the revenue from the proportional share in sukuk's assets.

Sukuk, which is structured as another type of corporate bonds, which are considered an interest-bearing instrument, is not allowed in accordance with Islamic financing laws.

In the case of ordinary bonds, there is a contractual obligation to pay the holders of bonds interest and principal on certain dates specified in the issuer. In the Sukuk structure, on the contrary, every sukuk owner has the right of Indivisible beneficiary ownership of tanyach assets.

Sukuk appears as a new source of liquidity and an alternative source of funding. The peculiarity of selling Islamic sukuk is its participation in the financing and / or issuance of Real Assets. Access to the Sukuk market can help improve the profile of the capital structure and liquidity of the companies of the cooperation Union of the countries of Asia and the Gulf, especially those with sectors that can enter capital, such as infrastructure. He can give the long-term financing needed to similar companies from another source. This resource is becoming more globalized and more liquid than the level of crossing the border.





Table 1 COMPARISON OF SUKUK AND TRADITIONAL BONDS

	Traditional bonds	Sukuk
Ownership of bonds	Bonds refer to the investor not the share of ownership of the asset or project, but the debt obligation before the holders of the issuer's bonds.	Sukuk provides the investor with partial ownership of the asset or project that forms the basis of sukuk.
Investment criteria	Bonds can be used to finance any asset, project or business.	The asset that forms the basis of Sukuk should be in accordance with Sharia.
Extraction unit	Each bond constitutes a share of the debt.	Each sukuk constitutes a share of the base asset.
Release price	The nominal value of the bond depends on the issuer's ability to repay the loan (including its rating).	The nominal value of sukuk is based on the market value of the underlying asset.
Benefits and risks from investments	. Bond holders receive interest payments regularly during the period of validity of the bonds with a planned (in most cases with the established rate) interest, and their principal is guaranteed to be returned until the date of payment of the bonds	Sukuk holders receive a percentage of the profit from the base asset (and also receive a percentage of any losses seen).
Effect of value	Bond holders usually do not suffer from the costs associated with the asset, project or business they support. The effectiveness of the underlying asset does not affect the reward of the investor.	Sukuk custodians are affected by the costs associated with the underlying asset. Relatively high costs can lead to a reduction in investors income and vice versa.

The support of enterprises and organizations carrying out foreign economic activities is especially important at a time when many economic entities are suffering from the development of the coronavirus epidemic around the world. In addition, these funds will be retained in jobs on account of. This is effective both for the population and for the economy.

Kraudfunding is derived from the English word «crowdfunding», meaning «crowd»-public, «funding»-financing, that is, public financing. The term was first cited in an article published in Wired magazine in 2006 by American journalist Djef haue (Howe, 2006). Thus, it is understood that kraudfunding is the mobilization of its financial resources to other people or projects in cooperation with different people for one purpose. Of course, kraudfunding is not a new phenomenon, in Europe at the beginning of the XVIII century, when writers collected money for the publication of



subscription books, money was also collected by the people for the construction of the statue of Liberty in New York¹.

There are two ways in which business projects are mainly financed externally, these are behind the bank and investment funds. The map has the same drawback as the two, they are rarely oriented towards innovation ideas. While applying innovative ideas, the risk level is high. It will also face a number of challenges to achieve financing through these organizations. Any creditor or investor, along with the consideration of the projects of familiar business owners of a narrow circle, will invest in areas that bring the main profit they believe in.

Therefore, for the application of business projects in US must be financed through kraudfunding. This practice, in our opinion, protects the interests of all parties equally. The role of the digital economy in financing through Kraudfunding is high. Because, the most important means of sharing information about kraudfunding projects are social networks, which help to convert social capital into financial capital and reduce the role of intermediaries.

Traditional intermediaries tend to be cautious about kraudfunding because they see it as a potential threat. However, kraudfunding is also a useful tool for them. After all, with this, they can observe innovative ideas and, using "crowd wisdom", evaluate the potential success of the project with the aim of creating a clone or investing in it in a traditional way. Kraudfunding is an instructor who can come to your aid while in the process.

The presence of state property in the economy is one of the main factors provoking the middle gap in the financing of the bank and the capital market. This shows that the state supports financing through banking and banking because the underlying assets in the banking sector belong to the state. In many developed countries, companies with state participation have a wide range of opportunities to obtain financial support due to the guarantee of the government or some other type of support.

Summary and Suggestions

In conclusion, it should be noted that the validity of the transfer channels depends on a number of factors, such as the competitive environment in the banking and finance sector, the availability of alternative sources of financing, the level and effectiveness of the development of financial markets, the quality and coverage of financial intermediary services, the exchange rate regime, the movement of capital, the It is also

¹ Crowdfunding [Electronic resource]. URL: <http://crowdsourcing.ru/> (accessed: 06.05.2015).





important to develop investment strategies taking into account alternative financing opportunities in the development of sources of financing of investment activities in the Republic. Because the placement of production capacities taking into account the opportunities of the available resources, infrastructure, labor force in the Republic increases the efficiency of the use of investments and ultimately ensures the competitiveness of the products produced. Therefore, structural restructuring of alternative financing opportunities in the development of the national economy is of particular importance in studying the regional aspects, which include the structure and nature of economic reforms.

In the formation of alternative sources of financing of investment activities, the use of the following recommendations is of great importance in ensuring the quality of financing and their successful implementation:

- it is necessary to seek ways to increase the convenience of the capital market for investors of all categories by actively integrating with the international financial markets, using a wide range of modern information and communication technologies and using advanced approaches successfully tested abroad;
- financial structures are important in the emergence and development of any form of financing (bank and capital market), but one economic structure should not limit the development of another. Therefore, we can say that no matter what kind of financing system has a high priority in the financial system of the country, the base of normative legal acts regulating the sphere is necessary to create conditions for fair and equitable competition between the bank and the capital market.

In Uzbekistan, the system of financing through a bank is relatively developed, where it is necessary to create a base of normative legal acts that ensure honest competition between various financial institutions. As for the financial instruments, we can see that there are significant differences between debt and capital evasion financing systems and it is worthwhile to take this into account when coordinating the financing in the banking hamdakapital market;

- it is necessary to provide and inform the population of the Republic about the business with venture capital, to develop the system of training specialists in this direction and professional development of specialists in the educational system;
- In our country, we need to develop regulatory documents in the field of kraudfunding, as well as organize the receipt of these funds under the control of kraudfunding companies, the government, which will serve as an important factor for the trust of investors.

The fact that the above tasks will be solved as quickly and efficiently as possible, will serve not only to assess the value of alternative sources of financing of investment





activities, but also to further improve the socio-economic development of the state and the comfortable way of life of the population.

Used Literature

1. Mirziyoyev G. M. Criticism of analysis, acute order-discipline and personal zhavobgarlik-any conductor of a work-factor approach. - Tashkent: "Uzbekistan", 2017. 104 b.
2. Strategic development of small business and forms of support for individual entrepreneurship [Electronic resource]: monograph. Nizhny Novogorod: NOO "Professional Science", 2018. - Access mode: <http://scipro.Ru/Conf/monographbusiness>.
3. Armstrong J. The syndicated Loan Market: Dewelopments is in the North American Context.// Bank of Kanada Working Paper 2003-15, June 2003.
4. F. Sh. Karimov. "Fancy business". Lesson. T.: Timi, 2010. 210 V.
5. Panova E. A. Crowdfunding as an alternative tool for financing small and medium-sized businesses // Finance and credit. - 2018. - Vol. 24, No. 4 – - p. 238-250.





APPLICATION OF INNOVATIVE EDUCATIONAL METHODS IN TEACHING HETEROHAL INTERNATIONAL COMPOUNDS WITH A FIVE MEMBER HETEROATOM

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Annotation

This article provides an overview of innovative educational teaching of heterogal international networking with geteroatom and general information about them.

Keywords: innovative, pedagogical technology methods, heterocyclic, “Menu”, “T-table”, “Conceptual table” styles. The article is based on modern pedagogical technology in the field of organic chemistry. It is also revealed that the success of the educational process depends on the constant enrichment of the knowledge and skills of the teacher. Keyword ca concepts: knowledge, thinking, preparation, ability, perseverance, diligence, skill, pedagogical technology, method

Introduction

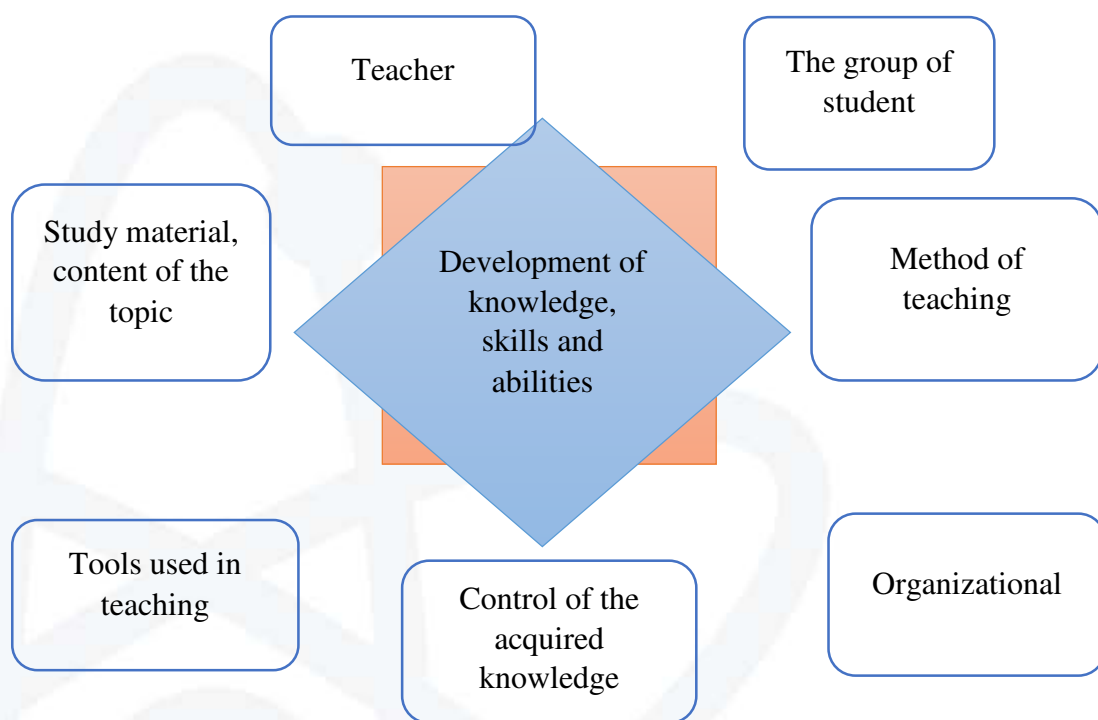
Raising a healthy and well-rounded generation in our country depends on the level, training and dedication of the teacher working in the system of continuing education, his attitude to teaching and educating the younger generation. The teacher must believe in the idea of independence, have a well-developed scientific thinking, knowledge of the profession, that is, a deep knowledge of their subject, a master of pedagogical communication, pedagogical-psychological and methodological knowledge and skills. In addition, they must be able to quickly solve various pedagogical tasks, perceive study and evaluate situations, and apply various innovative teaching methods in the classroom. Therefore, the teacher must follow the





process of formation of the student with great enthusiasm and care. He must have pedagogical knowledge and skills while leading the pedagogical process. We know that the teaching of chemistry and the formation of knowledge and concepts in the minds of students on other topics are different from other disciplines puts a greater responsibility on the teacher. Therefore, the use of modern pedagogical technologies in chemistry lessons, the organization of lessons on the basis of innovative teaching methods and the teaching process on the basis of various didactic games, helps to organize lessons more meaningfully. In the field of organic chemistry, students will be able to explain the topics of heterocyclic compounds in a meaningful way and organize the lesson on the basis of innovative teaching methods helps to form in their minds the knowledge and skills acquired on these topics.

The purpose of training



The main part

Innovative teaching methods such as "Menu", "T-table", "Conceptual table" were used to convey to students the topic "Representatives of five-membered heterocyclic compounds stored in one heteroatom, the production of furan, pyrrole, thiophene, and their properties." In the "menu" style, small groups are organized and a separate task is prepared for each group.



For example,

1. The naming of heterocycles.
2. Methods of obtaining pyrrole, furan, thiophene.
3. Chemical properties.
4. It to be used as a substance. Each group receives an assignment and discusses it for 3 minutes, and then one representative of each group comes to the teacher's desk and brings back the finished Menu. These are long sheets of paper - "languages", which describe the properties of various heterocyclic. The group representative selects from the "languages" and brings them to their group, then the other student completes the task and this continues until the necessary materials are collected. Assignment in 10 minutes is discussed and implemented. Representatives of the other group ask questions, and the teacher evaluates the group work, the activities of the leader. The "T-table" graphogizer method reveals the content of several basic features; basic concepts in order to highlight a particular aspect of the topic or issue under study, comparing them with each other. It can be used to express an attitude towards a concept, a reality, and an object. In many cases, this technology forms the basis of the topics used to compare the advantages or disadvantages of several cases, their level of efficiency and inefficiency, and their importance for the present and the future. How to use the method: the topic, issue or assignment to be studied is referred to the students' attention; students get acquainted with the conditions of application of the method "T-table"; students are attached to groups; for a given period of time the groups (pairs) make a comparative comparison according to the nature of the task given in tabular form perform, i.e., state to the left and right sides of the table the conflicting states of the matter; the tables completed by the groups are compared; A single "T-table" is formed to reach a final decision on the solution of the problem. That is, all group responses are tabulated. For example:

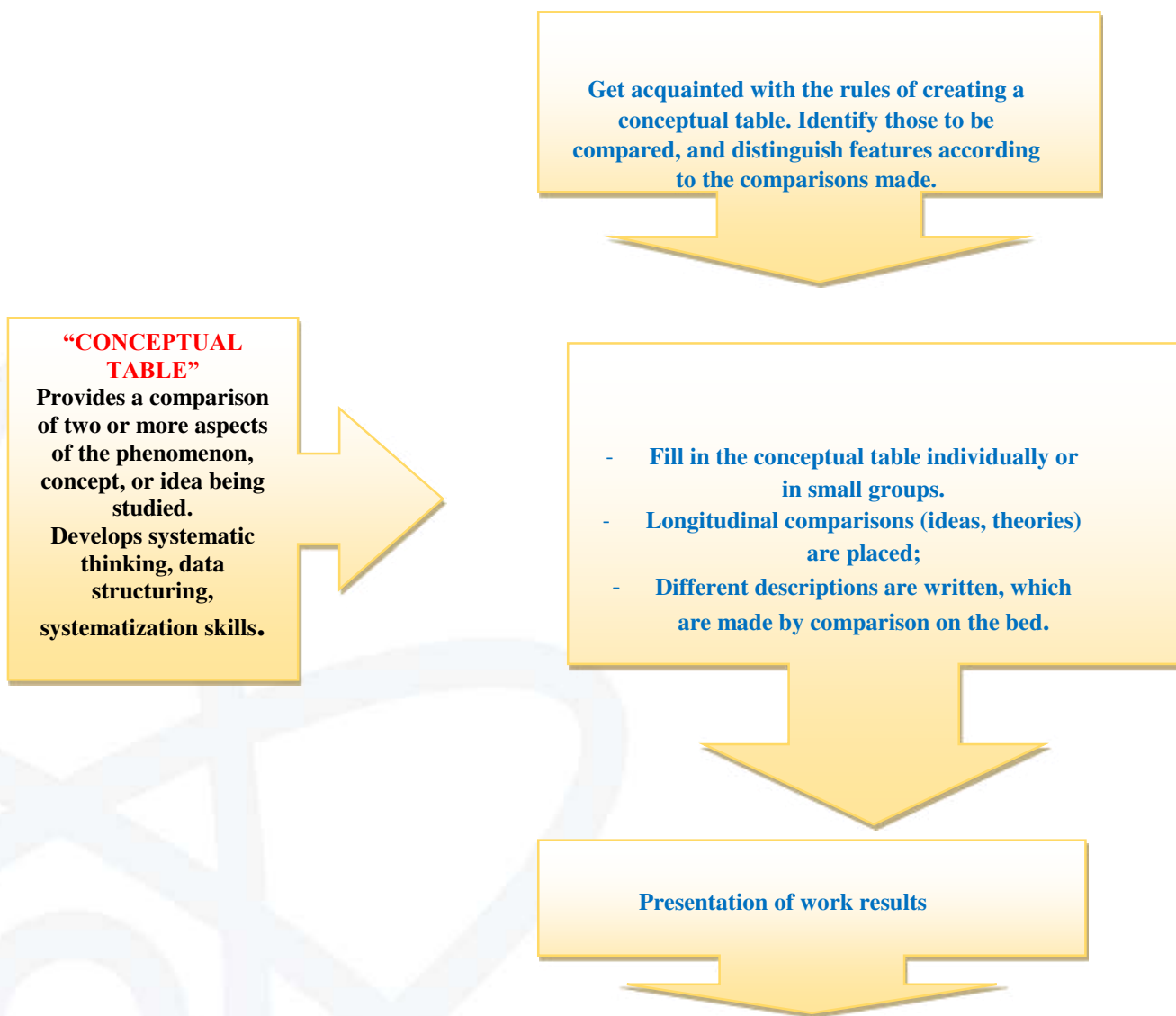
Comparison of furan and pyrrole properties on the basis of "T-table"

For furan	General indicators	For pyrrole
-	Placement (nucleophilic)	-
+	Placement (electrophile)	+
+	Alkylation reactions	+
+	Acylation reactions	+
+	Halogenation reactions	+
+	Nitration reactions	+
+	Sulfation reactions	+
+	Oxidation reactions	+
+	Coupling reaction	-
+	Reduction reactions	+
+	Polymerization reactions	+
-	Acidity	+



The “conceptual table” method teaches students to compare the topic (issue or problem) being studied on two or more aspects. In its use, students develop the ability to think logically on the topic, to systematically present information. The use of the method during the sessions is as follows: the groups submit the solution to the judgment of the group. Group solutions are discussed in the group team.

“CONCEPTUAL TABLE” METHOD



The structure of heterocyclic compounds with five heterogeneous heteroatoms and their different nebulae are of great importance. Of particular importance is the fact that the representatives of this class have a specific aromatic properties, as well as specific reactions. Therefore, for students in the study of the chemical properties of substances such as heterocyclic compounds containing a single heteroatom with five members: furan, pyrrole, thiophene, along with traditional methods, pedagogically is



advisable to apply the methods. Because the chemical properties of these types of substances are complex and unique. At the same time, the teacher's skillful approach allows the student to easily and fully master the topic. The T-Table and Conceptual Table graphical organizer methods are used together so that the student can easily master and independently analyze the chemical properties of five-membered heterocyclic compounds. The large group consists of 3 small groups the groups are divided into: 1. "Furan" group; 2. Pirrol Group; 3. Tiofen group. A list of all chemical reaction types is distributed to these subgroups in tabular form. A (+) sign is placed on the line where the reaction type is present. If not, a (-) sign is placed. Again, all the chemical reaction equations requested in the list are written in the appropriate column. The score is burned for the correct answer in the last column of the table. Incorrect answers are evaluated with 0 points. For example, the answer of the group "Thiophene"

No	Type of reaction	Availability	The reaction equation	Definition	Right answer
1.	Merge	-		It does not enter because of its aromatic properties	1
2.	Placement (nucleophilic)	-		Does not enter at all	1
3.	Placement (electrophile)	+		Easy to enter	1
4.	Alkylation	+		It goes easy	1
5.	Acylation	+		It goes easy	1



6.	Reassurance	–		It won't go away	0
7.	Halogenation	+		It goes easy	1
8.	Nitration	+		Has an acidophobic property	0
9.	Sulfation	+		Has not an acidophobic property	1
10.	Condensation	–		It won't go away	0
11.	Oxidation	–		goes hard	1
12.	Return	+		It goes easy	1
13.	Polymerization	+	In the presence of catalysts	It does not polymerize in the presence of acid.	1
14.	Disintegration	–	It's going hard	It goes hard	1
	Total:				11

Outcome: Then the remaining 2 group answers in the same view are taken and all group answers are discussed and compared. The teacher checks the answers and announces how well the task was done and the group that scored the most points. Rates will then be announced. The groups check and analyze the reciprocal responses. The students analyze not only their own responses but also the responses of the partner groups. The answers are summarized in tabular form. This in turn helps to fully master the subject. Conclusion: The above methods encourage students to work in groups, summarizing the chemical properties of various organic compounds or class representatives and systematically analyzing them independently through their theoretical knowledge. Of course, for the teacher, these methods are a great help in quickly and objectively assessing students' knowledge. In the lessons organized with the help of these technologies, students' independent thinking is present in the study of the topic Proper use of resources and free thinking, the possibility of effective achievement of the goal is great. New pedagogical technology allows getting the expected (guaranteed) result as a result of the educational process. This element is the central idea of the new pedagogical technology. While the new pedagogical technology requires that the educational process be guaranteed as a result, it is important that



the process is carried out for the intended purpose and that it is effective aims to be planned in front of the teacher. During the process, this process is analyzed, corrections are made, refills are made, and the expected result is achieved.

References

1. Muslimov N.A., Usmonboeva M.H., Sayfurov D.M., Turaev A.B. Innovative educational technologies. Tashkent. 2015. 208 pages.
2. Ishmukhamedov R.J., Abduqodirov A.A. Pardaev A.X. Innovative technologies in education. Tashkent. "Talent." 2008. 29p.
3. Kholmukhamedov MM and head. Educational and pedagogical technologies (methodical manual) Samarkand - 2005.
4. Saidakhmedov N.S. "New pedagogical technologies", Tashkent, 2004.
5. Karimov A., Isamuxamedova Sh.Z., Chinibekova N.K. Organic Chemistry, Textbook. Tashkent, 2020





STUDENT ARTISTIC THINKING AND ITS COMPONENTS

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Annotation

In this article, the components of student artistic thinking are described in a logical, coherent, continuous, and integral way, based on didactic principles.

Keywords: thinking, component, education, upbringing, process, activity, nature, society, essence, approach knowledge, skill, competence, cooperation, method, methodology.

Introduction

Artistic thinking is manifested in the orientation, ensuring continuity, continuity, connection and integrity between nature and social relations as an indicator of the level of imagination and activity mastered by the student in historical-objective conditions. Theoretical and methodological bases of student artistic thinking are characterized by:

- The student's artistic thinking is manifested as a result of a well-organized artistic education;
- The student's artistic thinking is formed on the basis of the content of socio-artistic relations, determined in the historical-gradual, socio-objective conditions;
- The student's artistic thinking depends on the level and content of development of the socio-historical society to which he belongs;
- The student's artistic thinking is reflected in the process of organization of socio-artistic relations, his approach to the environment;
- Guarantees the formation of artistic thinking of the student, the purity and viability of the natural environment, as well as the development of social life.

The Main Part

Artistic thinking means the organization of socially, morally and spiritually values, as well as reasonably deep and broad-minded, measured behavior in relation to nature and society in the organization of student activities.





Interdisciplinary development of student artistic thinking is based on the following principles:

consistency, coherence, scientific, gradual, historical, humanistic, continuity and continuity, succession in the process of studying artistic knowledge; the necessity for all to study artistic knowledge, as well as to obtain artistic information; scientific substantiation of the content of art education, the establishment of strong interaction and cooperation between the family, community, educational institutions in the development of artistic thinking in students; that art education is based on national and universal values.

In our opinion, the student's artistic thinking is manifested in the manifestation of the following cases:

Knowledge of social and art education, interest and need to learn the basics of socio-ethical, spiritual and artistic knowledge, thorough acquisition of socio-artistic knowledge, skills, competencies and competencies to apply the acquired theoretical and artistic knowledge in practice; to adequately assess the interrelationships between social relations, to have social activism in the organization of the promotion of artistic knowledge.

Based on the generalization of the above ideas, the student's artistic thinking can be divided into the following parts:

artistic thinking; artistic activity.

Student artistic thinking is characterized by the interdependence, interconnectedness, continuity, continuity, and level of development of these two aspects.

Artistic thinking takes place in the process of approaching the environment, establishing socio-artistic relations.

Artistic thinking has a complex structure. A person's artistic thinking is a system of views, imagination, feelings and beliefs formed through the study of structured artistic knowledge, understanding the content of past values in this regard, ideas and theories of artistic thinking, acquaintance with the content of concepts.

The following aspects of artistic thinking are noteworthy:

the aspect of emotional perception of the student's artistic thinking - is reflected in the content of the emergence and combination of artistic feelings, intuition, mood and needs that arise in the process of the subject's approach to the environment; The intellectual aspect of artistic thinking is formed on the basis of artistic knowledge, worldview, intellectual and practical skills, acquisition of skills and competencies, the study of theoretical and practical artistic knowledge, artistic knowledge that leads to the acquisition of artistic perception and consciousness; the personal aspect of artistic



thinking is manifested as the motives of socio-artistic activity, attitude to the environment, its evaluation. The volitional aspect of artistic thinking is to have a careful approach to the artistic system, not to disturb the artistic balance, to preserve nature, to be responsible for increasing its riches, to have the need to implement one's point of view in social and artistic activities and actions.

This aspect of artistic thinking is characterized by the student's persistent perspective, strong character, and level of strong will (Figure 1).

The final form of analytical thinking takes the form of deductive reasoning (from general to specific).

Analytical thinking. Each stage of analytical thinking is clearly articulated and the thinking student can tell them to another student. The analytical thinker has a clear idea of his opinion and the content of its constituents.

Intuitive and analytical thinking complement each other. With the help of intuitive thinking, a person can solve or solve problems in such a way that a person would not or could not solve these problems or issues through analytical thinking.

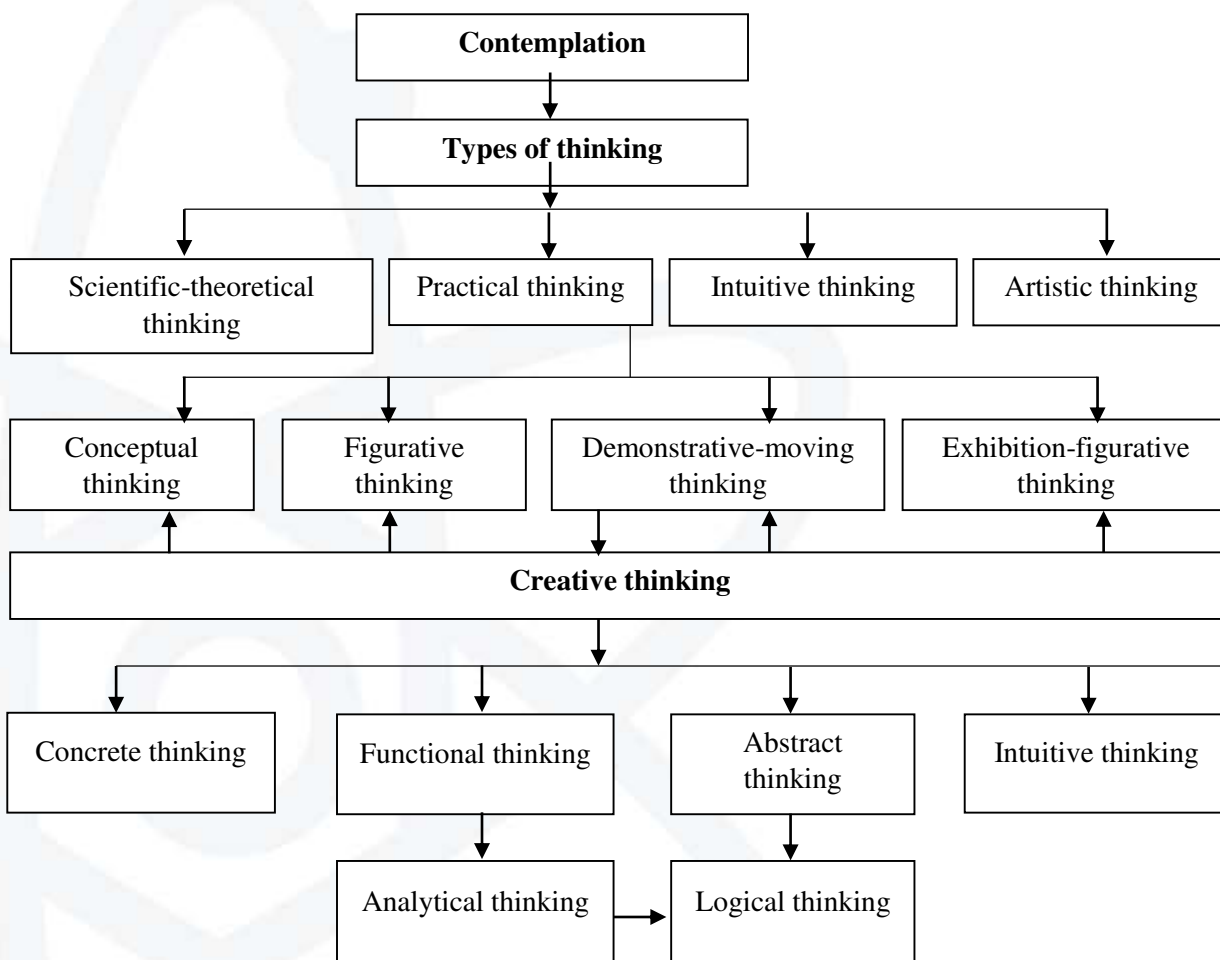


Figure 1. Block diagram of the components of the structure of artistic thinking.



Intuitive thinking. It is characterized by the absence of clear stages. It is based on comprehension, shortening all problems. In other words, the study of a concept and its structure is done in the form of skipping (jumping) certain joints. Therefore, conclusions drawn using intuitive thinking should be verified by analytical means.

Abstract thinking. Abstraction is one of the main types of thinking, in which the student distinguishes one feature of the object of study and does not look at the rest. The result of this process is a mental product (concept, model, theory, classification, etc.).

Practical thinking. It is one of the manifestations of thinking and is usually compared to theoretical thinking. This thinking is directly related to goal setting, plan and project structure.

Interdisciplinary development of artistic thinking in students is based on the following components and characteristics (Figure 2).

Table 2. Components and symptoms of student artistic thinking

S/N	Components of artistic thinking	Signs (criteria) of artistic thinking
1	Reproductive thinking	<ol style="list-style-type: none">1. Compilation of interdisciplinary art questions.2. Application of interdisciplinary artistic knowledge in practice.3. Reconstruction of certain algorithms and methods of writing exercises, essays, essays in the interdisciplinary artistic context.4. Mental activity within the minimum level and limits of basic knowledge.5. Solve the problem without going beyond the known limits.6. Inability to adapt interdisciplinary artistic knowledge to changing conditions.
2	Productive thinking	<ol style="list-style-type: none">1. Independent performance of new interdisciplinary art exercises.2. Deep and thorough mastering of interdisciplinary artistic knowledge.3. The rate of rapid acquisition of interdisciplinary artistic knowledge.4. The scale of interdisciplinary artistic knowledge.5. Transfer of interdisciplinary artistic knowledge to new conditions.6. Ability to acquire new knowledge in the process of interdisciplinary art education.7. Acquisition of new knowledge by applying existing knowledge in practice.
3	Functional thinking	<ol style="list-style-type: none">1. Dynamic depiction of artistic objects.2. A dynamic and practical approach to artistic facts.3. Identify cause-and-effect relationships between artistic facts.4. Transfer artistic concepts to the action plan.5. Availability of methods that refer to materials of artistic content.
4	Analytical thinking	<ol style="list-style-type: none">1. Expression of some stages of artistic thinking.2. Exercise or statement, essay writing Multiple ideas and the presence of a new approach.



		3. Full understanding of the content and essence of the exercises performed.
5	Logical thinking	<ol style="list-style-type: none">1. The existence of several known types of considerations, definitions, conclusions.2. The existence of the basis of interdisciplinary artistic knowledge, which forms a logical construction.3. The functioning of generalizations of various kinds.
6	Theoretical thinking	<ol style="list-style-type: none">1. Creating a theory for solving the problem of artistic knowledge.2. Development of personality related to interdisciplinary artistic cognitive activity.3. A form of analysis that takes internal communication and internal relationships in the performance of interdisciplinary art exercises.4. Generalization within the framework of known artistic facts.5. Discover the laws and properties of artistic objects.6. Trying to solve fundamental artistic problems.
7	Intuitive thinking	<ol style="list-style-type: none">1. The rate at which mental processes flow into each other.2. Lack of clearly separated stages.3. Minimal awareness.4. Get acquainted with the basic artistic concepts and their structure.5. Use analog and heuristic methods of exercise that do not guarantee the correctness of the answer.
8	Creative thinking	<ol style="list-style-type: none">1. Creation of a subjective new product (experience) in artistic activity.2. Perform problem tasks independently.3. Ability to think deeply and comprehensively, to prove.4. Speed of performing complex exercises.5. The existence of divergent thinking.5. Description of scientific research work.

Conclusion

When we think about the means of developing artistic thinking, how, on what means and on what basis is thinking formed and developed? What are the specific features of the factors influencing its formation and development? It is important to find answers to these questions and use them in the process of educational relations that serve to form and develop a culture of independence in students, because, as mentioned above, the process of formation and development of artistic thinking in students is a process of intellectual and analytical actions. , in the process, students learn and analyze the causes of certain events and happenings that are new to them. This innovation may already exist, that is, it may be subjective. But this is a novelty for students, because students rediscover the causes, features and significance of the origin of this novelty on the basis of study, analysis. This process can be called the process of formation and development of thinking. Hence, imagination,



understanding and worldview serve as the main tools in the process of formation and development of artistic thinking.

Based on the above, it can be said that artistic thinking serves as the main means to give students an idea of its content, importance and necessity, to form their vision in this area, to inspire confidence in the future, to broaden their worldview, to form and develop art culture.

Literature

1. Mahmudov G.Yu., Toshpulatov A.X. Badiiy tafakkurni shakllantirishning uziga hos psihologik jihatlari.//School and life.-2020.-4-son.b.15-17.
2. Mahmudov G.Yu., Toshpulatov A.X. Sub`ekt badiiy tafakkuri klasifikatsiyasi. Collection of materials of the Republican scientific-practical conference. – Tashkent: TVMI, 2021. 30 March.p.154-156.

