SOI: 1.1/TAS
DOI: 10.15863/TAS
Scopus ASJC: 1000

ISSN 2308-4944 (print)
ISSN 2409-0085 (online)

№ 09 (101) 2021

Teoretičeskaâ i prikladnaâ nauka

Theoretical & Applied Science

Philadelphia, USA

Teoretičeskaâ i prikladnaâ nauka

Theoretical & Applied Science

09 (101)

2021

International Scientific Journal

Theoretical & Applied Science

Founder: **International Academy of Theoretical & Applied Sciences**

Published since 2013 year. Issued Monthly.

International scientific journal «Theoretical & Applied Science», registered in France, and indexed more than 45 international scientific bases.

Editorial office: http://T-Science.org Phone: +777727-606-81

E-mail: T-Science@mail.ru

ISSN 2308-4944

International Scientific Journal

Theoretical & Applied Science

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International Scientific Journal

Theoretical & Applied Science

ISJ Theoretical & Applied Science, 09 (101), 806.
Philadelphia, USA

Impact Factor ICV = 6.630

Impact Factor ISI = 0.829
based on International Citation Report (ICR)

The percentage of rejected articles:

ISSN 2308-4944

Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
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	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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CONCEPT AS A BASIC UNIT OF COGNITIVE LINGUISTICS

Abstract: *This article discusses the need and factors of the emergence of cognitive linguistics, its subject and concepts, the specific role of the concept within these concepts.*

Key words: *cognitive linguistics, mental aspect, perception of being, communication process, information formation, linguistic conceptualization, concept.*

Language: *English*

Citation: Umarova, N. R., & Yigitaliyeva, S. I. (2021). Concept as a basic unit of cognitive linguistics. *ISJ Theoretical & Applied Science, 09 (101),* 701-704.

Soi: http://s-o-i.org/1.1/TAS-09-101-94 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.94

Scopus ASCC: *1203.*

Introduction

The formation of cognitive linguistics dates back to the late 1980s. It is also often associated with a symposium organized by Reyes Dirven in Leisburg in 1989 and the IKLA (International Cognitive Linguistic Association) organized there. It is said that the reason for its emergence was the need for a new understanding of the language and the exaggeration of the spiritual aspect of it. It emphasizes the active participation of language in the communication process, which consists of the perception of being, the formation and transmission of information about it, the formation, construction and improvement of information, and the transmission and reception of a wide range of knowledge in general.

The main part

Cognitive linguistics is the study of language as a general cognitive mechanism. In this area of linguistics, "the role of the language system in the processing of information is studied in terms of speech creation and perception. In this case, the subjects that create and perceive speech - the speaker and the listener - are considered as a system of information processing" [4, 129-134].

Linguistic conceptualization is important in cognitive linguistics. Linguistic conceptualization is the expression of an objective reality or part of it through language. He said that "... it is a verbalized form of meanings accumulated in the human mind and a systematization of knowledge about the world through a specific language, which is partly universal and partly national in nature"[14, 20].

It is well known that in any language, existence is manifested in a unique image. It has to do with national gaze, national feeling, national hearing factors. The subconscious view of a being should be understood not as a photograph, but as an example of fine art created by an artist. This picture reflects the perceptions of a person or persons belonging to a national language based on the observation of existence, the knowledge acquired as a result of study or observation or experience, the state and nature of the cognitive process. Therefore, it can be said that the problem of linguocognitology is the structure of knowledge, imagination in the language. Some view the nature and essence of cognition within the object of study of cognitive linguistics. Cognition is a mental process. The process is not a source of cognitive linguistics. It examines the content and structure of

knowledge that is the product of the cognitive process. It differs from cognitive psychology in this respect and can claim relative independence. “The study of the structure of perception of different types of knowledge, the method of conceptual construction of knowledge in the process of speech formation and perception” [8, 245] constitutes the content of lingvocognitology. True, the process of knowledge and cognition are integral and common phenomena, yet they are not exactly phenomena. Only in a certain sense, in the sense of "explaining the mechanism of human language learning and the principles of its structure and the description of the system," the process of cognition can attract attention [2, 17-33].

The development of a cognitive approach to language phenomena helps to understand it as a source of information in the conceptual and cognitive structures of our mind and intellect. Language itself is evidence of the existence in our brains of various structures of knowledge about our world. The cognitive approach makes it possible to expand the methods of rounding the object of research and presenting components in the lexical sense. In cognitive linguistics, all language processes are related to human cognitive activity and acts of conceptualization and categorization of the world.

Conceptualization is the imaginary construction of all concepts and things and events that lead to the formation of a conceptual system in the human psyche. The process of conceptualization is inextricably linked with the process of categorization. These processes categorize the results of cognition in an organic relationship into certain categories. If the process of conceptualization consists of a conceptual classification of incoming information, categorization is aimed at combining a larger part of the units, which are described as similarities or similarities manifested in one way or another. They differ in the final result. All the problems of cognitive linguistics revolve around its main categories concept, conceptualization, categorization, conceptosphere or image of the universe. In the lexical system with horses, the concept that explains the names of objects and objects reinforced with them is a basic unit of cognitive linguistics.

The term is the most actively used in cognitive linguistics and has a variety of definitions. His interpretations in cognitive linguistics, linguoculturology, as well as literary studies differ.

Conceptus is the Latin word for concept. The concept is two-sided. On the one hand, culture enters the mental world of a person in the form of a concept, on the other hand, a person enters culture through a concept and sometimes influences it. Man, while preserving his individual, unique culture, through the concept appeals to the culture of nations, the mental world of different nationalities [15].

The concept as a linguocultural unit represents the specific aspects of a particular culture.

The term "concept", first activated in the 90s of the last century, was first used by SA Askoldov-Alekseev in 1928 and differed from the concept. According to the scientist, “a conceptual mental device replaces an infinite number of things in the process of thinking, which is the unit of expression of the image of the world - a mental phenomenon that includes language and cultural knowledge, imagination and evaluation [1, 269]. According to ES Kubryakova, “the concept is established in the mind, the divisible unit of the mind with the collective nature, on the basis of the concept carries out the process of human thinking. The concept arises in the process of formation in the mind of information about the event and its qualities, as well as this information includes descriptions of the objective role of events in existence and imagination. This information is about what an individual sees, knows, imagines, thinks about being” [9, 90].

If this term was originally used in linguistics as a synonym for the word concept [3, 35-47], it can be seen from his present commentary that it has acquired a broader meaning than the term concept.

According to MV Nikitin, a concept is any divisible semantic element of consciousness, that is, it is based on content, embracing both abstract and generalized concepts, as well as explicit and specific imaginations [11, 127]. In this respect (comprehensiveness - including both general and specific) differs from the concept.

N.Yu.Shvedova notes that the concept is a concept, and behind this concept there is a content that is socially or subjectively understood, reflects the important material, mental, spiritual aspects of human life, has its own historical roots, reflects the general experience of the people [16, 603].

In his article on the term concept, L.V. Adonina gives 12 different definitions of this term, noted by eminent linguists, and classifies the concept term from ten perspectives. According to this classification, conceptual standardization refers to universal, ethnic, group, and individual concepts; scientific, artistic, everyday concepts according to their application; divided into lexical, phraseological, grammatical, syntactic and textual concepts according to their expression, and so on [17]

Man acquires words not at the level of their meaning, but at the level of content that gives them meaning, that is, at the level of concepts. The meaning of words is interrelated with the specific cognitive structures behind these meanings and provides an understanding of them.

When it comes to the concept, it can be explained by a single analogy, if appropriate: “After all, the bride wants to leave home. Not even the old women who look at the bride, who sew curtains for the rooms, and the guests who come and go” [5, 38].

No matter how deeply the concept is analyzed, its boundaries with the concept are washed away, and the possibility of distinguishing them is diminishing. So it is necessary to clarify the boundaries of these two - one old and one young - essence, to determine their stable qualities in the descriptions, otherwise one of them (of course, the next) loses its significance. A concept is essentially a semantic device; linguocultural phenomenon.

At the heart of a particular concept is a specific conceptosphere. "Conceptosphere -" conceptual areas "that make up the conceptual space" [7, 287]. The conceptosphere is the wholeness of intellectual images that represent the knowledge that people form as a system [12, 18]. So it can be said that the conceptosphere is systematic; membership; continuity; demand; difference; has organizational qualities such as step-by-step. "The more and richer the sources created in the language of the people - the folklore, literary and scientific monuments, sources, works of art, the richer the national conceptosphere of the people" [10, 280-287].

Each linguistic paradigm has its own basic concepts and categorical apparatus. The nuclear concept of the cognitive approach is a concept, and all other concepts revolve around it.

Cognitive linguistics defines the concept in general as “a mental and psychic resource in the content of information that emerges on the basis of consciousness and knowledge, experience; memory, mental vocabulary, conceptual system, brain language; semantic and functional unity of the image of the universe reflected in the human mind ”[8, 90]. There are also many descriptions based on the side exaggerated by each researcher. For example, Z.D. Popova, I.A. Sternin understand the concept as "an intellectual unit as a quantum of knowledge with a specific structure." No matter how diverse the views expressed, they can be seen to be based on the categories of intellectual unity, knowledge, being, memory, language.

Some Russian linguists attribute the definition in the form of "the basic cognitive essence that connects thought with practical expression" [6, 36-44] to the concept, while others acknowledge that language is a means of forming and expressing a concept [13, 4-28], while others a clear mental device that replaces the vague representation of objects ”[1, 269].

Conclusion

While being an “assistant” to the concept, the ontsept refers to a new meaning of the previous and emerging, expresses the individual’s attitude to the linguistic experience, and participates in the formation of a conceptosphere common to language speakers [10, 282].

The concept emerges under the influence of factors such as national tradition and folklore, religion and national ideology, life experience and emblems in art, the system of emotions and values.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
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SOI: 1.1/TAS DOI: 10.15863/TAS
International Scientific Journal
Theoretical & Applied Science
p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)
Year: 2021 **Issue:** 09 **Volume:** 101
Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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PHOTO-ABSORBENT PROPERTIES OF LICEN EXTRACTS

Abstract: *Photoprotective properties of water, ethanol, methanol, acetone, benzene, hexane, ethyl acetate and chloroform extracts from lichens Cladonia furcata, C. rangiferina, Evernia mesomorpha, Hypogymnia tubulosa and Parmelia sulcata was studied. Alcoholic solutions of aqueous and hexane lichens extracts poorly absorb ultraviolet light in the range of 290 ÷ 400 nm. Ethanol, methanol, acetone, benzene, ethyl acetate and chloroform extracts absorb UV-B well and poorly absorb UV-A. For the extracts, the values of SPF, critical wavelength (λ_{crit}) and UV-A / UV-B ratios were determined. It is concluded that the studied lichen extracts are not photoprotective.*

Key words: *lichen extracts; sunscreen factor (SPF); critical wavelength (λ_{crit}); extracts alcohol solutions; absorption spectra; UV-A / UV-B ratio.*
Language: *Russian*
Citation: Khramchankova, V. M. (2021). Photo-absorbent properties of licen extracts. *ISJ Theoretical & Applied Science, 09 (101)*, 705-710.
Soi: http://s-o-i.org/1.1/TAS-09-101-95 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.95
Scopus ASCC: *1100.*

ФОТОАБСОРБИРУЮЩИЕ СВОЙСТВА ЭКСТРАКТОВ ЛИШАЙНИКОВ

Аннотация: *Изучали фотозащитные свойства водного, этанольного, метанольного, ацетонового, бензольного, гексанового, этилацетатного и хлорформного экстрактов из лишайников Cladonia furcata, C. rangiferina, Evernia mesomorpha, Hypogymnia tubulosa и Parmelia sulcata. Спиртовые растворы водных и гексановых экстрактов лишайников слабо поглощают ультрафиолет в диапазоне 290÷400 нм. Этанольные, метанольные, ацетоновые, бензольные, этилацетатные и хлороформные экстракты хорошо поглощают УФ-Б и слабо – УФ-А. Для экстрактов определяли величины SPF, критической длины волны ($\lambda_{крит}$) и отношения УФ-А/УФ-Б. Сделан вывод, что изучаемые экстракты лишайников фотозащитными не являются.*

Ключевые слова: *экстракты лишайников; солнцезащитный фактор (SPF); критическая длина волны ($\lambda_{крит}$); спиртовые растворы экстрактов; спектры поглощения; УФ-А/УФ-Б.*

Введение

Против вредного воздействия ультрафиолетового излучения в настоящее время чаще всего используют фотозащитные средства, косметически выраженные в виде кремов, лосьонов, спреев и т.д. Хорошее солнцезащитное средство должно обеспечивать защиту как в области ультрафиолета Б (УФ-Б, 290÷320 нм), так и в области ультрафиолета А (УФ-А, 320÷400 нм).

После выявления ряда негативных свойств фотопротекторов физической и химической природы, усилия специалистов сосредоточились в области «зеленой», натуральной фотокосметики, где активными компонентами выступают экстракты растений, грибов и микроорганизмов [1 – 3]. Одним из наименее изученных источников фотозащитных субстанций являются лишайники. Эти организмы, обитающие повсеместно на земном шаре, вынуждены постоянно решать задачу защиты своего фотобионта от разрушительного действия инсоляции, в том числе – ультрафиолетовой. Лишайники синтезируют вещества, характеризующиеся сильным поглощением в УФ-диапазоне, и,

поэтому, являются хорошими кандидатами в УФ-фильтры. Существуют публикации, демонстрирующие фотозащитные свойства некоторых лишайников [4 – 6]. Довольно актуальной задачей является оценка фотозащитных свойств экстрактов из лишайников, обитающих не в высокогорьях Гималаев и под озоновой дырой Антарктиды, а в обычных условиях умеренных широт.

Целью настоящего исследования был скрининг фотозащитных свойств экстрактов пяти видов лишайников, распространенных в Беларуси.

Методы исследований

Для исследования выбрали виды лишайников, распространенных в лесах Беларуси: кладония вильчатая – *Cladonia furcata* (Huds.) Schrad., кладония оленья – *Cladonia rangiferina* (L.) Wigg., эверния мезоморфная – *Evernia mesomorpha* Nyl., гипогимния трубчатая – *Hypogymnia tubulosa* (Schaer.) Hav. и пармелия бороздчатая – *Parmelia sulcata* Taylor.

Биомассу лишайников отбирали в лесах пригорода г. Гомеля на типичных для каждого вида субстратах. Эпифитные виды отбирали вместе с фрагментом субстрата (корки соответствующего вида форофита); эпигейные виды собирали на почве в сухих сосняках. Биомассу лишайников отделяли от субстрата, очищали от детрита, сушили до воздушно-сухого состояния, измельчали, экстрагировали в аппарате Сокслета, используя в качестве экстрагентов воду, этанол, метанол, ацетон, бензол, гексан, этилацетат и хлороформ. Растворители удаляли, экстракты высушивали, после чего до использования хранили при -18 °С. Навеску 1,0 г экстракта лишайников растворяли в этаноле, фильтровали. Путем разбавления этанолом доводили концентрацию раствора испытуемого экстракта до 200 мкг/мл. Снимали спектр поглощения образцов в диапазоне $\lambda = 290 \div 400$ нм, выполняли фотометрию при 290÷320 нм, раствором сравнения служил чистый этанол. Средством измерения был УФ-спектрофотометр Solar PB 2201, измерительные кюветы – кварцевые. По результатам спектрометрии и фотометрии рассчитывали величины SPF, критической длины волны ($\lambda_{крит}$) и отношения УФ-А/УФ-Б, на основании которых судили об уровне фотозащитности экстрактов лишайников. Измерения выполнялись в трех повторностях. Статистическая обработка данных проводилась с использованием программных продуктов Microsoft Excel и STATISTICA 7.0.

Результаты и их обсуждение

Все экстракты имели выраженный, зачастую очень интенсивный запах, именуемый в парфюмерии «аромат мох». Внешний вид экстрактов отличался. Сухими и сыпучими были экстракты кладоний: оливково-зеленый ацетоновый, желто-зеленый гексановый и буровато-коричневый бензольный; сухими, но вязковатыми были торфяно-коричневый метанольный, оливково-бурый этилацетатный и желтовато-коричневый хлороформный; охристо-терракотовый этанольный экстракт был вязким. Среди экстрактов эвернии сухим и сыпучим был только желтовато-коричневый ацетоновый экстракт; ярко-оранжевый этанольный, густо-зеленый бензольный, оливковый этилацетатный экстракты были вязкими; буро-коричневые метанольный и хлороформный экстракты по консистенции напоминали асфальтную смолу, а черный гексановый экстракт был практически жидким. Ацетоновый экстракт гипогимнии был сухим, желтым, сыпучим, тогда как сухие и сыпучие этилацетатный и хлороформный экстракты были желто-зелеными; бензольный и этанольный – коричневыми, вязковатыми, а шоколадно-коричневый гексановый экстракт представлял собой вязкую гелеобразную массу, не менявшую своих свойств при длительном высушивании. Большинство экстрактов пармелии были сухими и сыпучими: желтый ацетоновый, желто-оранжевый этанольный, охристо-желтый хлороформный, оливково-бурый метанольный, желто-зеленый этилацетатный; сухим, но вязковатым был густо-оливковый бензольный экстракт; коричнево-черный гексановый экстракт был практически жидким. Высушенные водные экстракты всех видов лишайников представляли собой бурую хлопьевидную массу, плохо растворяющуюся в 96 % этаноле.

Выход экстрактов отличался как по видам лишайников, так и по экстрагентам – таблица 1.

Среди экстрагентов наименее эффективными были гексан и бензол. Количество экстрактивных веществ в биомассе лишайников семейств пармелиевые и кладониевые отличалось в три раза.

В диапазоне УФ-Б и УФ-А водные и гексановые экстракты лишайников довольно слабо поглощали ультрафиолет (рисунок 1), причем водные экстракты были «слабее» гексановых. Гексановые экстракты лишайников, будучи слабыми поглотителями УФ-А, в области УФ-Б образовали ряд убывания величин оптической плотности растворов: *E. mesomorpha* > *C. rangiferina* > *P. sulcata* ≥ *H. tubulosa* ≥ *C. furcata*. Аналогичные ряды убывания при большей поглощающей активности образовали спектры этанольных, метанольных, ацетоновых, бензольных, этилацетатных и хлороформных экстрактов, два из которых в качестве примера мы привели на рисунке 1.

SPF – Sun Protection Factor (солнцезащитный фактор) – сила защиты от УФ-Б-изучения. Данный

параметр показывает во сколько раз увеличивается минимальная эритемная доза при использовании данного солнцезащитного средства. Для определения SPF фотозащитного продукта взвешивают 1 г образца, переносят в колбу, разбавляют этанолом до 100 мл, обрабатывают ультразвуком в течение 5 мин, фильтруют. Переносят аликвоту 5,0 мл в мерную колбу на 50 мл, доводят до объема этанолом. Затем аликвоту 5,0 мл переносят в мерную колбу на 25 мл, доводят до объема этанолом. Измеряют поглощение растворов диапазоне от 290 до 320 нм с шагом 5 нм, используя 1 см кварцевую кювету и этанол в виде холостого раствора. Вычисляют среднее из трех определений и рассчитывают SPF по уравнению Мансура [7]:

$$SPF = CF \times \sum_{290}^{320} EE(\lambda) \times I(\lambda) \times Abs(\lambda);$$

где CF – поправочный коэффициент (равен 10); EE(λ) – спектр эритемного эффекта;

Таблица 1. Процентный выход экстрактов из лишайников

Экстрагент	*C. furcata*	*C. rangiferina*	*E. mesomorpha*	*H. tubulosa*	*P. sulcata*
Вода	4,3 ± 0,49	3,6 ± 0,18	9,7 ± 0,76	11,2 ± 0,92	7,5 ± 0,63
Этанол	2,2 ± 0,17	2,8 ± 0,22	8,1 ± 0,34	8,8 ± 0,96	9,2 ± 1,07
Метанол	2,8 ± 0,31	3,1 ± 0,29	10,2 ± 0,78	9,2 ± 1,02	7,3 ± 0,49
Ацетон	2,9 ± 0,22	3,2 ± 0,25	5,9 ± 0,29	9,6 ± 0,62	8,8 ± 1,03
Бензол	1,1 ± 0,09	1,7 ± 0,09	5,1 ± 0,13	4,1 ± 0,34	5,7 ± 0,27
Гексан	1,3 ± 0,06	0,8 ± 0,06	1,5 ± 0,09	1,1 ± 0,03	0,07 ± 0,025
Этилацетат	1,9 ± 0,21	2,1 ± 0,39	6,9 ± 0,88	8,2 ± 1,24	6,4 ± 0,53
Хлороформ	1,3 ± 0,07	1,4 ± 0,05	6,2 ± 0,54	7,5 ± 0,92	5,5 ± 0,35

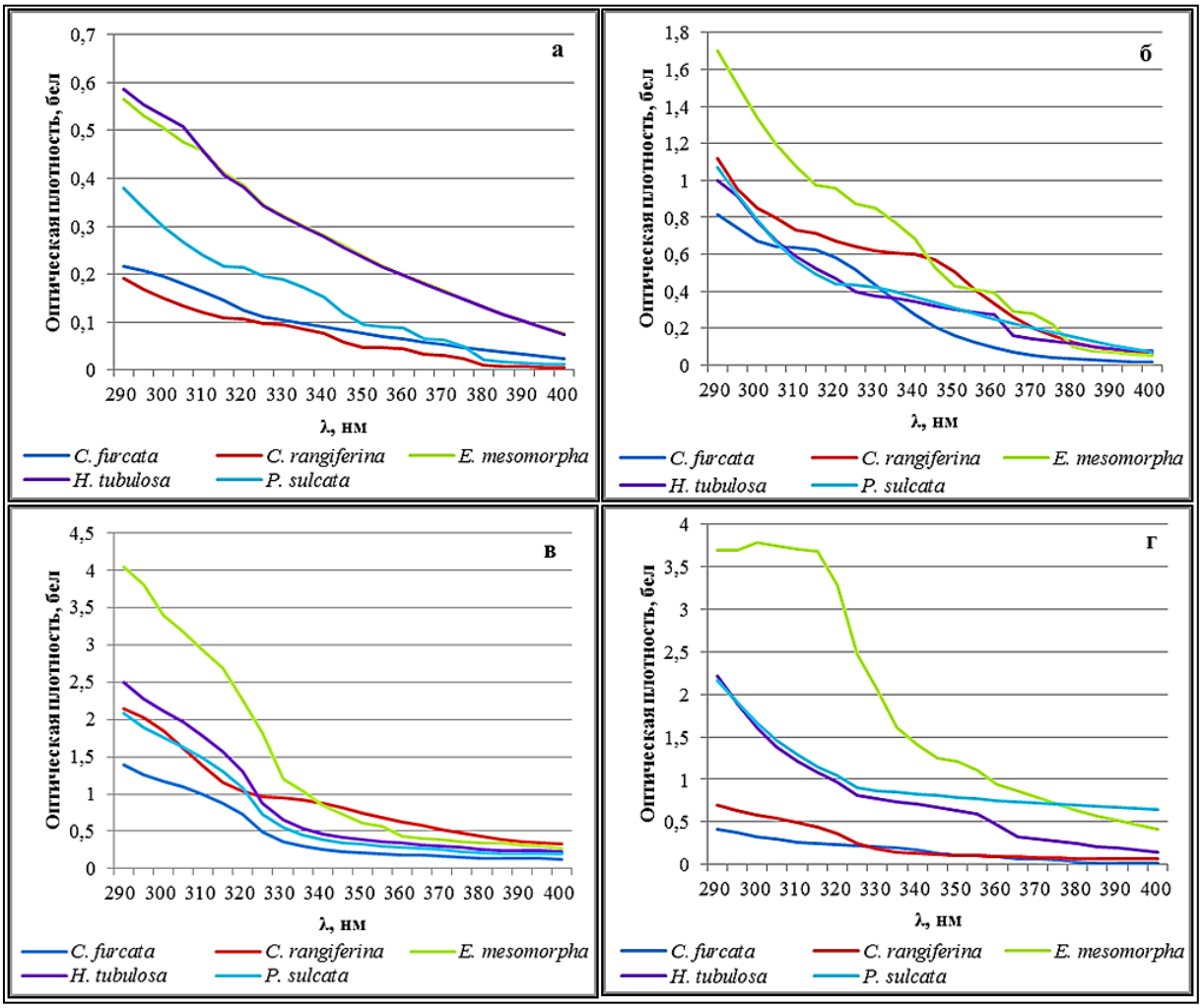

Рисунок 1 – Спектры поглощения спиртовых растворов экстрактов лишайников: а – водных, б – гексановых, в – метанольных, г – бензольных

I(λ) – спектр солнечной интенсивности; Abs(λ) – оптическая плотность образца. Величина EE(λ) × I(λ) является константой [7, 8].

Эффективность солнцезащитных средств характеризуется величиной SPF: уровень фотозащиты считается низким при SPF = 2 – 6; средним – при SPF = 8 – 12; высоким – при SPF = 15 – 25; очень высоким – при SPF = 30 – 50; сверхвысоким – при SPF > 50 [9].

Среди водных экстрактов *C. furcata* и *C. rangiferina* фотозащитными свойствами не обладали; остальные (*E. mesomorpha, H. tubulosa* и *P. sulcata*) характеризовались низким уровнем фотозащиты – рисунок 2.

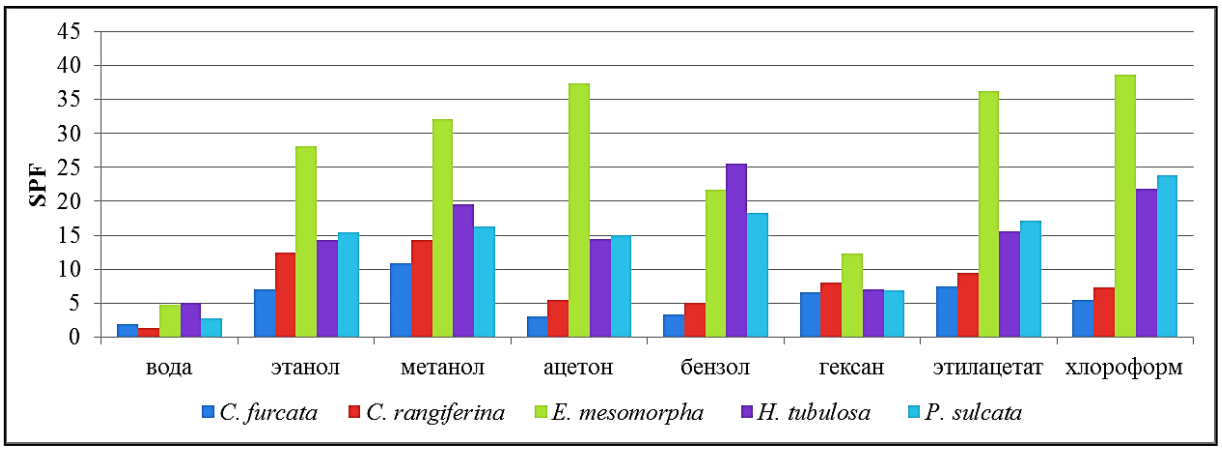

Рисунок 2 – SPF спиртовых растворов экстрактов лишайников

Низкий уровень фотозащиты имели также этанольный, гексановый, бензольный, ацетоновый, этилацетатный и хлороформный экстракты *C. furcata,* бензольный, ацетоновый и хлороформный экстракты *C. rangiferina*, гексановые экстракты *H. tubulosa* и *P. sulcata.*

Средним уровнем защиты от УФ-Б характеризовались метанольный экстракт *C. furcata,* этанольный, гексановый и этилацетатный экстракты *C. rangiferina*, гексановые экстракты *E. mesomorpha,* этанольный и бензольный экстракты *H. tubulosa* и бензольный *P. sulcata.*

Высокий уровень фотозащиты был присущ метанольному экстракту *C. rangiferina*, этанольному и ацетоновому экстрактам *E. mesomorpha*, метанольному, ацетоновому, этилацетатному и хлороформному экстрактам *H. tubulosa,* этанольному, метанольному, ацетоновому, этилацетатному и хлороформному экстрактам *P. sulcata.*

Очень высоким уровнем фотозащиты характеризовались метанольный, бензольный, этилацетатный и хлороформный экстракты *E. mesomorpha.*

Экстракты со сверхвысокими фотозащитными свойствами не выявлены.

Одним из критериев эффективности солнцезащитного средства является величина критической длины волны – значения, при котором площадь фигуры под кривой спектра поглощения в диапазоне λ = 290÷400 нм достигает 90 % от максимального значения.

Критическую длину волны определяют по формуле [8, 9]:

$$\int_{290\text{ нм}}^{\lambda_{крит}} \text{Abs}(\lambda)d\lambda = 0{,}9 \times \int_{290\text{ нм}}^{400\text{ нм}} \text{Abs}(\lambda)d\lambda;$$

где Abs(λ) – оптическая плотность образца.

Для классификации $\lambda_{крит}$ предложена пятибалльная шкала эффективности: 0 ($\lambda_{крит}$<325); 1 (325<$\lambda_{крит}$<335); 2 (335<$\lambda_{крит}$<350); 3(350<$\lambda_{крит}$<370) и 4(370<$\lambda_{крит}$). Только средства с длиной $\lambda_{крит}$ более 370 нм и величиной SPF, превышающей 15,0 признаются солнцезащитными [8].

В таблице 2 приведены результаты определения $\lambda_{крит}$ анализируемых экстрактов из лишайников

Таблица 2. Величины критической длины волны ($\lambda_{крит}$) спиртовых растворов экстрактов лишайников

В нанометрах / баллах классификации фотозащитности

Экстрагент	*C. furcata*	*C. rangiferina*	*E. mesomorpha*	*H. tubulosa*	*P. sulcata*
Вода	367 / 3	358 / 3	371 / 4	373 / 4	358 / 3
Этанол	338 / 2	357 /3	352 / 3	382 / 4	368 / 3
Метанол	362 / 3	373 / 4	354 / 3	363 / 3	360 / 3

Ацетон	361 / 3	381 / 4	362 / 3	378 / 4	371 / 4
Бензол	358 / 3	364 / 3	364 / 3	362 / 3	372 / 4
Гексан	346 / 2	360 / 3	362 / 3	361 / 3	368 / 3
Этилацетат	353 /3	356 / 3	363 / 3	353 / 3	367 / 3
Хлороформ	355 / 3	363 / 3	342 / 3	362 / 3	345 / 3

Сами по себе значения $\lambda_{крит}$ характеризуют сбалансированность фотозащитных свойств анализируемой субстанции в областях УФ-Б и УФ-А. Если для анализируемой субстанции SPF > 15,0 и $\lambda_{крит}$ > 370 нм, ее признают фотозащитной. Из полученных результатов следует, что изучаемые экстракты лишайников фотозащитными не являются.

Показатель УФ-А/УФ-Б является мерой широты защитных свойств анализируемых субстанций и представляет собой отношение площадей криволинейных фигур под кривыми спектров поглощения в областях УФ-А (321÷400 нм) и УФ-Б (290÷320 нм. Соотношение УФ-А/УФ-Б определяют по формуле [7, 8]:

$$\text{УФ-А/УФ-Б} = \frac{\int_{320\ нм}^{400\ нм} Abs(\lambda)d\lambda}{\int_{290\ нм}^{320\ нм} Abs(\lambda)d\lambda}.$$

По величине УФ-А/УФ-Б солнцезащитные средства делятся на слабые (0÷0,2); средние (0,2÷0,4); хорошие (0,4÷0,6); превосходные (0,6÷0,8) и максимальные (≥0,8) [8, 9].

Среди анализируемых экстрактов лишайников субстанций со слабыми защитными свойствами не обнаружено – таблица 3.

Таблица 3. Величины УФ-А/УФ-Б спиртовых растворов экстрактов из лишайников

Экстрагент	*C. furcata*	*C. rangiferina*	*E. mesomorpha*	*H. tubulosa*	*P. sulcata*
Вода	0,81	0,71	0,97	0,93	0,72
Этанол	0,69	0,71	0,46	1,09	0,65
Метанол	0,47	0,88	0,49	0,45	0,46
Ацетон	0,58	1,09	0,58	1,11	1,19
Бензол	0,72	0,47	0,71	0,70	1,10
Гексан	0,57	0,94	0,72	0,73	0,78
Этилацетат	0,69	0,61	0,46	0,63	0,75
Хлороформ	0,44	0,71	0,50	0,47	0,57

Максимальными фотозащитными свойствами обладают: водные экстракты *C. furcata, E. mesomorpha* и *H. tubulosa;* этанольные *H. tubulosa;* метанольные *C. rangiferina;* ацетоновые *C. rangiferina, H. tubulosa* и *P. sulcata;* бензольные *P. sulcata;* гексановые *C. rangiferina.*

Заключение

Скрининг фотозащитных свойств водного, этанольного, метанольного, ацетонового, бензольного, гексанового, этилацетатного и хлорформного экстрактов из лишайников *Cladonia furcata, C. rangiferina, Evernia mesomorpha, Hypogymnia tubulosa* и *Parmelia sulcata* показал, что фотозащитными они не являются. Спиртовые растворы водных и гексановых экстрактов лишайников слабо поглощают ультрафиолет в диапазоне 290÷400 нм. Этанольные, метанольные, ацетоновые, бензольные, этилацетатные и хлороформные экстракты хорошо поглощают УФ-Б и слабо – УФ-А. Наиболее перспективными, могущими быть добавками к фотозащитным средствам являются этанольный, метанольный, ацетоновый, бензольный, этилацетатный и хлороформный экстракты *Evernia mesomorpha, Hypogymnia tubulosa* и *Parmelia sulcata.*

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SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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ANATOMICAL STRUCTURE OF THE GINKGO BILOBA L SHEET GROWING UNDER THE CONDITIONS OF INTRODUCTION OF THE TASHKENT BOTANICAL GARDEN

Abstract: *For the first time, the anatomical structure of the Ginkgo biloba leaf was studied under the conditions of introduction of the Tashkent Botanical Garden, to identify diagnostic signs and adaptive features of this species. In the leaves on the paradermal section, it consists of the mesophyll of the leaf, secretory receptacles, epidermis and palisade parenchyma; epidermis, submerged stomata and spongy parenchyma, druses, xylem, stomata, phloem and epidermis. The anatomical structure of the petiole of the Ginkgo biloba leaf on a cross-section consists of the epidermis, hypoderm and secretory receptacles, conducting bundles, parenchymal and hydrocytic cells, hypoderm, druses, xylem and phloem [1,2].*

Key words: *morphology, anatomy, leaf, petiole.*

Language: *Russian*

Citation: Aripova, N. B., Komilov, X. M., & Duschanova, G. M. (2021). Anatomical structure of the ginkgo biloba l sheet growing under the conditions of introduction of the tashkent botanical garden. *ISJ Theoretical & Applied Science, 09 (101),* 711-716.

Soi: http://s-o-i.org/1.1/TAS-09-101-96 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.96

Scopus ASCC: *1100.*

АНАТОМИЧЕСКОЕ СТРОЕНИЕ ЛИСТА GINKGO BILOBA L, ПРОИЗРАСТАЮЩИЙ В УСЛОВИЯХ ИНТРОДУКЦИИ ТАШКЕНТСКОГО БОТАНИЧЕСКОГО САДА

Аннотация: *Впервые изучено анатомическое строение листа Ginkgo biloba в условиях интродукции Ташкентского Ботанического сада, для выявления диагностических признаков и адаптивных особенностей данного вида. В листах на парадермальном срезе состоит из мезофилла листа, секреторные вместилище, эпидерма и палисадная паренхима; эпидерма, погруженные устьица и губчатая паренхима, друзы, ксилема, устьица, флоэма и эпидерма. Анатомическое строение черешок листа Ginkgo biloba на поперечном срезе состоит из эпидерма, гиподерма и секреторные вместилища, проводящие пучки, паренхимные и гидроцитные клетки, гиподерма, друзы, ксилема и флоэма.*

Ключевые слова: *морфология, анатомия, листа, черешки.*

Введение

Гинкго (лат. *Ginkgo*) — род листопадных голосеменных реликтовых растений класса гинкговых, живое ископаемое. Он включает целый ряд ископаемых видов и только один современный вид *Ginkgo biloba* (гинкго двулопастный) — высокое (до 40 м) дерево с раскидистой кроной и толстым (до 1 м) стволом [3].

Цель исследования: изучение анатомического строения листа *Ginkgo biloba* в условиях интродукции Ташкентского Ботанического сада, для выявления диагностических признаков и адаптивных особенностей данного вида.

Объекты и методы исследования.

Исследования проводились в условиях интродукции Ташкентского Ботанического сада имени акад. Н.Ф. Русанова при институте Ботаники Академии наук Республики Узбекистан.

Для анатомических исследований фиксировали лист в 70%-м этаноле. Эпидерму изучали на парадермальных и поперечных срезах. Поперечные срезы листа – сделаны через середину. Описания основных тканей и клеток приведены по К. Эсау [4], эпидерма – по С.Ф. Захаревич [6]. Препараты, приготовленные ручным способом, окрашивали метиленовой синью последующим заклеиванием в глицерин-желатину [3]. Микрофотографии сделаны компьютерной микрофотонасадкой с цифровым фотоаппаратом маркой A123 фирмы *Canon* под микроскопом *Motic B1-220A-3*.

Листья *Ginkgo biloba* – листопадное растение с уникальной для современных голосеменных формой листьев – вееровидной двулопастной пластинкой шириной 5-8 см, на тонком черешке длиной до 10 см. Жилки с дихотомическим ветвлением. Развиваются листья либо на длинных побегах поодиночке и быстро, либо на укороченных, но группами по два – четыре и медленно [5,8].

Анатомическое строение листа.

На парадермальном срезе очертания эпидермальных клеток сильно извилистые, проекция многоугольная и хлорофиллоносная. Однако верхняя эпидерма несколько отличается от нижней эпидермы. Клетки верхней эпидермы крупнее, чем нижней. В клеточных оболочках эпидерма на обеих сторонах листа хорошо заметны ядрышки.

Листья гипостоматичные – устьица находятся на абаксиальной (нижней) стороне эпидермы листовой пластинки и расположены поперечно к продольной оси листа. Все это приводит к сокращению потери воды с поверхности листа. Форма устьиц овальная, погруженные. Замыкающие клетки устьиц почти одинаковой длины. Устьица аномоцитного и гемипарацитного типов, более преобладают аномоцитный тип устьиц (рисунки 1, 2).

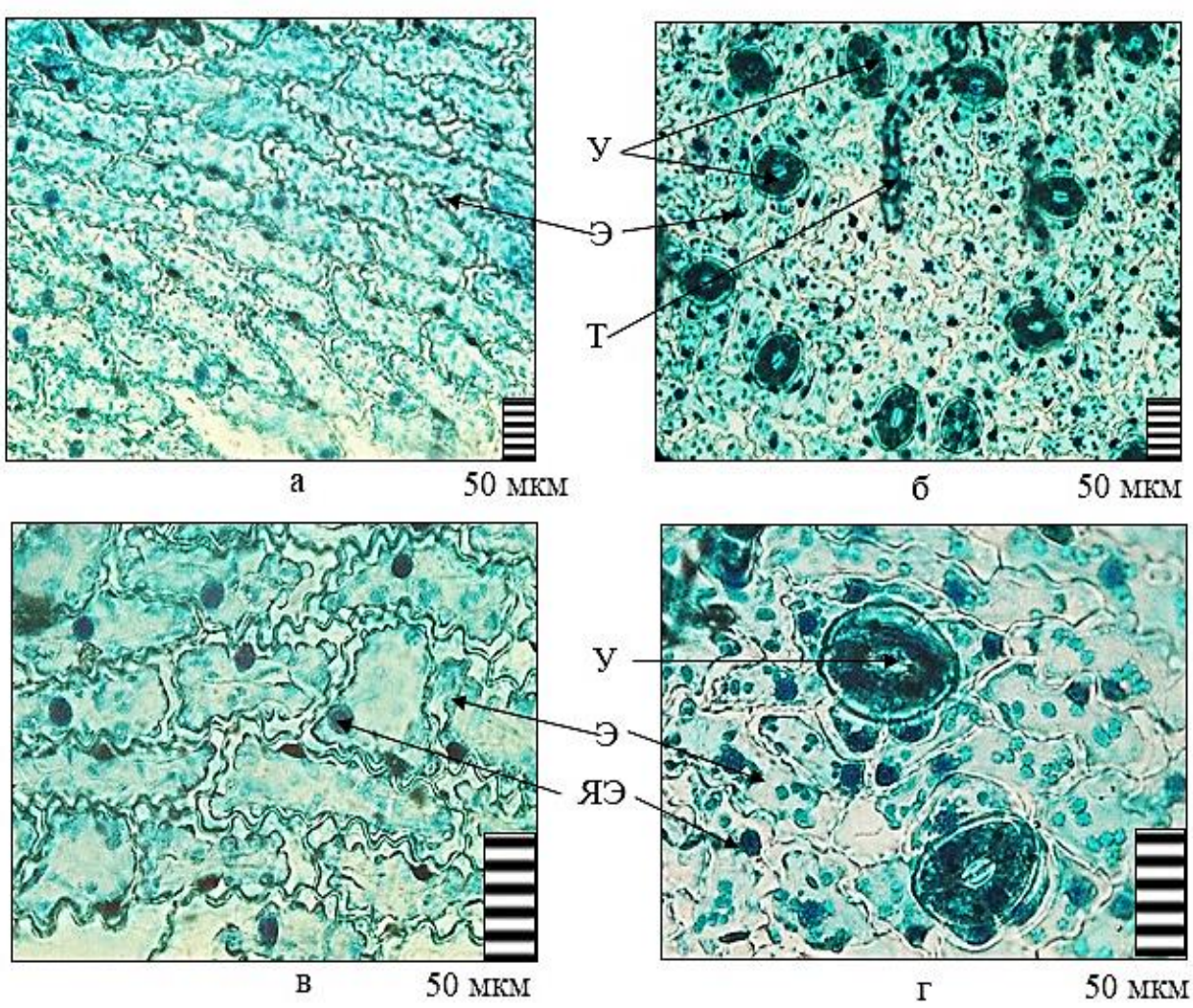

Рисунок – 1. Анатомическое строение эпидермы листа *Ginkgo biloba* на продольном срезе: а-в – верхняя (адаксиальная) эпидерма; б-г – нижняя (абаксиальная) эпидерма. Условные обозначения: У – устьица, Т – трихома, Э – эпидерма, ЯЭ – ядрышки эпидермы.

Мезофилл листа на поперечном срезе дорсивентрального типа, который представлен палисадными клетками, расположенными под верхней эпидермой мезофилла листа, губчатые клетки – над нижней эпидермой мезофилла листа. Эпидерма представлена одним рядом клеток с тонкостенным слоем кутикулы. Клетки адаксиальной эпидермы крупнее, чем абаксиальной. Между адаксиальными и абаксиальными эпидермами расположена ассимиляционная ткань, состоящая из палисадной и губчатой клеток. Палисадная паренхима хлорофиллоносная, удлиненная, состоит из двух рядов клеток и расположена между адаксиальной эпидермой и губчатой паренхимой листа. Мезофилл рыхлый, с большими межклетниками, состоит из губчатых паренхимных клеток почти всегда округлой, изодиаметрической формы. Губчатая паренхима хлорофиллоносная, которая состоит из 6-7 рядов и расположена между палисадной паренхимой и абаксиальной эпидермой.

Между палисадными и губчатыми клетками расположены многочисленные боковые проводящие пучки, с 3-4 мелкими сосудами и секреторные вместилищ (рисунок 2). Главные проводящие пучки выдаются на абаксиальной стороне и расположены в центральной части мезофилла листа, в них встречаются крупные друзы оксалата кальция. Проводящие пучки закрытые коллатеральные. Между боковые проводящие пучки расположена секреторные вместилища. Каждое вместилище выстлано слоем живых клеток эпителия (рисунок 2), которые, по наблюдению некоторых авторов, выделяют секрет непосредственно в полость вместилища [7,9].

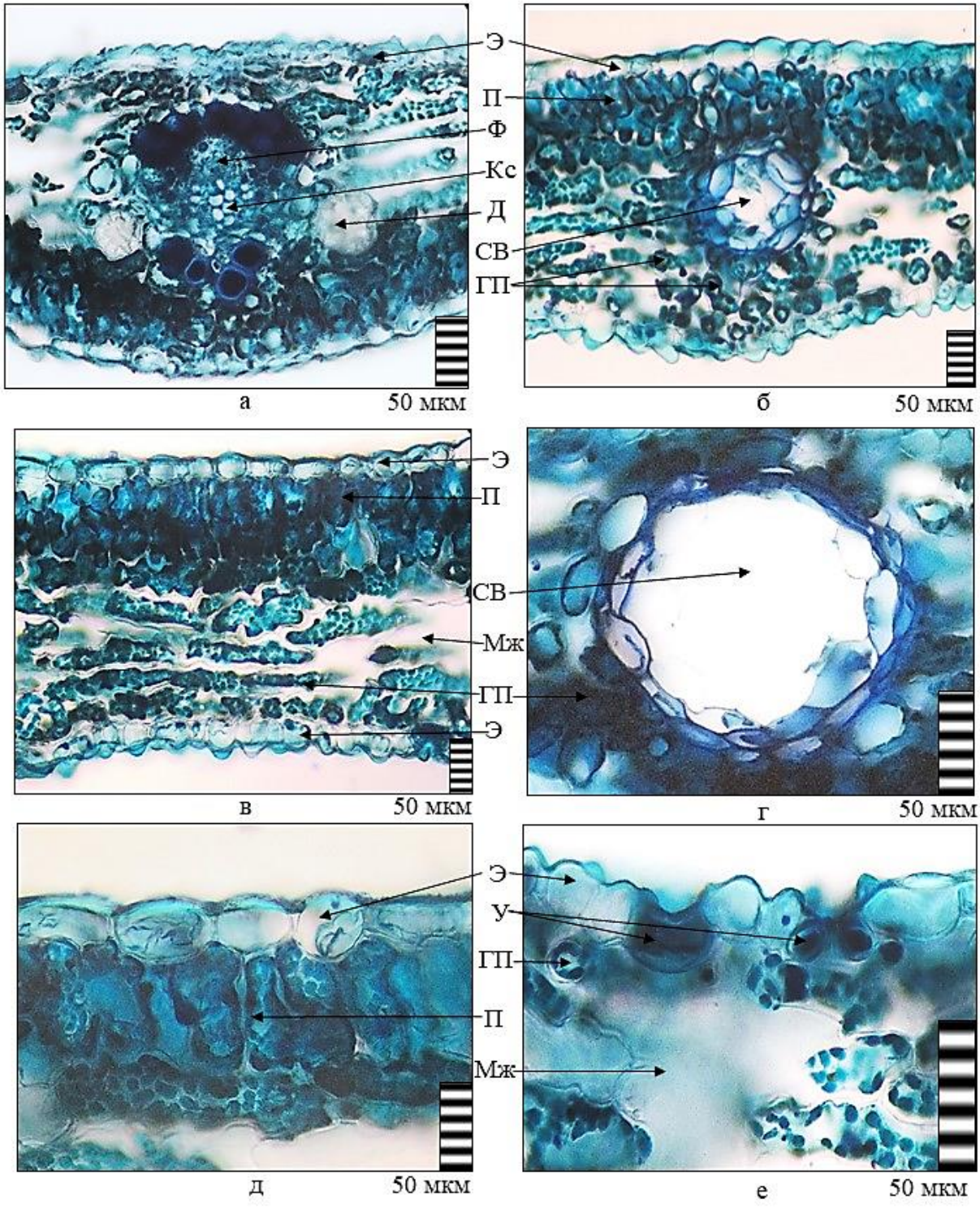

Рисунок – 2. Анатомическое строение листа *Ginkgo biloba* на поперечном срезе:
а, б, в – деталь мезофилла листа; г – секреторные вместилище; д – эпидерма и палисадная паренхима; е – эпидерма, погруженные устьица и губчатая паренхима. **Условные обозначения:** ГП – губчатая паренхима, Д – друзы, Кс – ксилема, Мж – межклетники, П – палисадная паренхима, СВ – секреторные вместилища, У – устьица, Ф – флоэма, Э – эпидерма.

Черешок листа на поперечном срезе паренхимно-пучкового типа, состоит из эпидермы, колленхимы, паренхимы и проводящих пучков. Черешок выдается на нижней стороне листа. Под эпидермой располагается двух-трёхслойная гиподерма, состоящая из плотносомкнутых клеток с сильноутолщенными одревеснevшими оболочками. На продольном срезе черешка в основной паренхиме локализованы крупные друзы. В центре черешка имеется 2 крупные проводящие пучки, которые закрытые коллатеральные, состоит из флоэмы и ксилемы (рисунок 3).

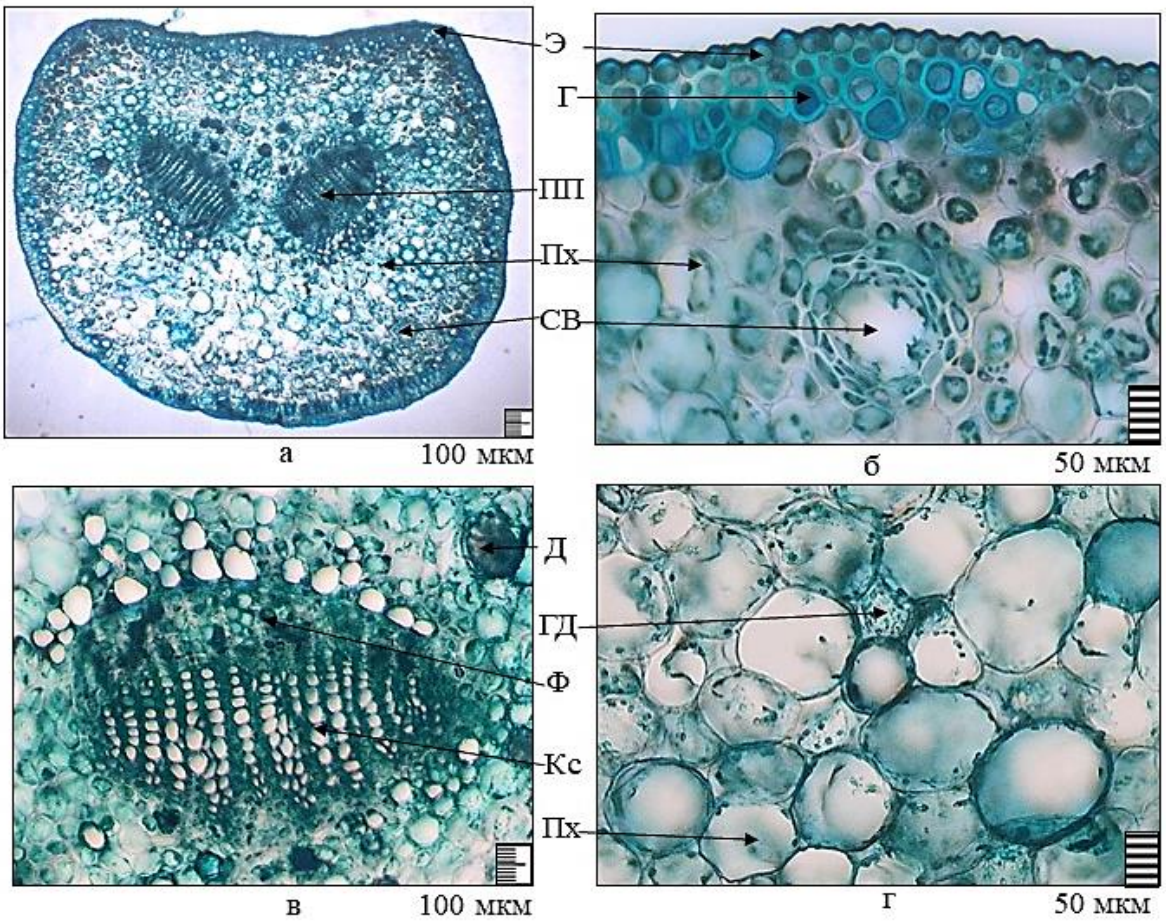

Рисунок – 3. Анатомическое строение черешок листа *Ginkgo biloba* на поперечном срезе:
а – общий вид; б – эпидерма, гиподерма и секреторные вместилища; в – проводящие пучки;
г – паренхимные и гидроцитные клетки. **Условные обозначения:** Г – гиподерма, ГД – гидроцитные клетки,
Д – друзы, Кс – ксилема, ПП – проводящий пучок, Пх – паренхимные клетки,
СВ – секреторные вместилища, Ф – флоэма, Э – эпидерма.

Ксилема черешка представлена кольчатыми сосудами и трахеидами с окаймленными порами. Паренхимные клетки тонкостенные, округло-овальной формы, среди которых встречаются секреторные вместилищ, гидроцитные клетки и друзы оксалата кальция (рисунок 3).

Таким образом, изучено анатомическое строение ассимилирующих органов *Ginkgo biloba* и определены следующие диагностические признаки. В листе – дорсивентральный тип мезофилл листа; мезофилл рыхлый, с большими межклетниками; толстостенные наружные стенки эпидермы; очертания эпидермальных клеток сильно извилистые, проекция многоугольная; гипостоматичные листья; погруженные устьица аномоцитного и гемипарацитного типа; хлорофиллоносная палисадная и губчатая паренхима; закрытый коллатеральный тип проводящих пучков; наличие дихотомического разветвления жилок и секреторные вместилищ вместилищ выделений, чередующихся с жилками листовой пластинки, также друзы оксалата кальция. В черешке – паренхимно-пучкового тип строения; округло-овальными, тонкостенными паренхимными клетками и в них встречаются секреторные вместилищ, гидроцитные клетки и

друзы оксалата кальция; закрытый коллатеральный тип проводящих пучков; наличие гиподерма, состоящая из плотносомкнутых клеток с сильноутолщенными одревеснevшими оболочками. Все признаки были сопоставлены, и мы пришли к выводу, что анатомические признаки листа и черешка могут быть полезны для предоставления диагностических признаков для различия изученных таксонов. Полученные результаты указывают на то, что данный вид более адаптирован к условиям интродукции.

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Impact Factor:					
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	GIF (Australia) = 0.564	ESJI (KZ) = 9.035	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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COGNITIVE AND PRAGMATIC FEATURES OF ANTHROPOCENTRIC METAPHOR

Abstract: *The article provides information on the concept which is the nuclear element of cognitive approach, its multifaceted category, on the basis of different relations in the cognitive approach the role of mental-activity, individual-speech, semantic, culturological, cognitive, lingvoculturological concepts. The author concludes that the concept should be understood in the cognitive-lingvoculturological aspect.*

Key words: *mental-activity, individual-speech, semantic, culturological, cognitive, psychic resource, memory, mental vocabulary, conceptual system, brain language.*

Language: *English*

Citation: Rozmetova, N. (2021). Cognitive and pragmatic features of anthropocentric metaphor. *ISJ Theoretical & Applied Science, 09 (101),* 717-722.

Soi: http://s-o-i.org/1.1/TAS-09-101-97 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.97

Scopus ASCC: *1203.*

Introduction

Each linguistic paradigm has its own basic concepts and categorical apparatus. The nuclear element of the cognitive approach is a concept, and all other concepts revolve around it. The concept is also a multifaceted category, there are different usage situations based on different approaches, and this is inevitable. Among them mental-activity[1], individual-speech[2], semantic[3], culturological[4], cognitive[5], lingvoculturological[6] concepts have considerable role. In the article, the concept is understood in the cognitive-lingvoculturological aspect.

[1] Askoldov S.A. Concept and word // Russian literature. From the theory of layering to the structure of the text: Anthology / Edited by Prof. V.P. Neroznak. - M .: ACADEMIA, 1997. -P. 267-280.

[2] Likhachev D.S. The concept of the Russian language // Russian literature: Anthology. - M.: ACADEMIA, 1997. - P. 280-287.

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Cognitive linguistics generally defines the concept as “the mental and psychic resource in the content of information that emerges on the basis of experience; memory, mental vocabulary, conceptual system, brain language; the semantic and functional unit of the image of the universe reflected in the human mind ”[7]. There are also many descriptions based on the side exaggerated by each researcher. For example, Z.D. Popova, I.A. Sternin understand the concept as "an intellectual unit as a quantum of knowledge with a specific structure." No matter how different the views expressed, they can be seen to be based on the categories of intellectual unity, knowledge, presence, memory and language. A.A. Zalevskaya pointed out the definition of consept "the basic cognitive essence that connects thoughts with practical expression."[8] There is no denying, but acknowledging that language is a [9]means of formulating and expressing a concept. S.A. Askoldova understands the concept as "a clear mental device that replaces the vague idea of objects of the same kind."[10] D.S. Likhachev, on the other hand, seems to have answered our question, "Are perceptions and concepts alternative categories?" He argues that the concept, while being a “substitute” for the perception, refers to the old and emerging new meanings, expresses an individual’s attitude to linguistic experience, and participates in creating a conceptosphere that is common to language speakers.[11] In general, Y.S. Stepanov's definition of a concept as "a concept is a" sediment "in the mind of a presence, on the basis of which the presence enters the mental world of man" satisfies us even more and summarizes the ideas quoted above.

Today metaphorology formed as an independent field in the last century, has risen to its cognitive stage. The mechanism by which metaphor forms a linguistic image of the universe has begun to be studied extensively on a cognitive basis.[12] The cognitive feature of the metaphor, which began to be studied inaccurately, found its comprehensive and deep interpretation in the work of E. McCormack "Cognitive theory of metaphor." The scholar attituded to metaphor based on the process of knowing. In his view, man actually compares the phenomena of presence whose comparisons are “wrong” from the point of view of common sense, compares the semantic concepts on which they are based on cognitive bases, and finds similarities. This leads to the formation of a metaphor. The metaphor has a contradictory dual nature:

a) compliance between referents;
b) inconsistency between referents.

The contradiction of conformity and inconsistency gives a new result - a metaphor emerges. One of the cognitive features of metaphor is that a person evaluates what he has not seen on the basis of what he has seen, what he has not heard on the basis of what he has heard, what he has not felt on the basis of what he has felt. Along with the evaluation, similarities and differences between them are distinguished. Metaphor should be viewed as a cognitive activity, a cognitive process, and a product of knowledge.[13]

Metaphorization is one of the creations of human thoughts. The mechanism of formation and application of metaphorization has both universals and national peculiarities. Indeed, “different nations and peoples usually see the same things differently, hear the same sound variously, feel the same situation differently. Otherwise, even though the rooster crowed the same everywhere, he would not hear it in the Uzbek "*quq-qu-quw*" and in the Russian "*ku-ka-re-ku*". This uniqueness is due to many factors such as natural-geographical uniqueness, national-ethnic worldview, religious environment. In the way of life of the Uzbek nation, family relationship is characterized by ethnic identity. Proverbs and sayings such as "Uncle replaces father", "Aunt - mother" are so deeply ingrained in our minds that it is deeply felt by everyone of Uzbek nation. Everyone follows it in their life without deviating. Both relatives are from the mother's side. Hence, the role of the mother in this is unique and is distinguished by the fact that it is much higher than the position of the father's attention. The language reflected this situation. That is, it differentiated and expressed different phenomena in our minds. That is why our language has the words uncle and aunt, aunt and uncle. After all, in terms of intimacy with us, the mother’s brother and the father’s brother, the mother’s sister and the father’s sister are not the same. That's why our language uses individual words to differentiate them.[14] “Person, as a biological creature, distinguishes himself in the perception of

[7] A short dictionary of cognitive terms / E.S.Kubryakova, V.Z.Demyankov, Yu.G.Pankrats, L.G.Luzina. - M., 1966. –p.90.
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presence on the basis of the senses, in the formation of information about it, and (!) In the preparation of his own reaction to it. It involves the intellectual, emotional activity of man.

For example, in Uzbek, oidium disease, which causes vine damaging, is a derivative of the word ash. It would be more accurate to call it an abbreviated form of the "*ash-like disease*". At this point, the subject of the analogy falls, and only the gray standard of the simulation device retains its full meaning, and a shortened form of the analogy, the metaphor, emerges."[15] Metaphor creates new knowledge based on knowledge coming out of social consciousness. For example, in the explanatory dictionary of the Uzbek language the word *megajin* is explained as follows: MEGAJIN [mog. - female boar] 1 Female pig.[16]

2. It refers to an insult to an animal (a harsh word used against women). [*Sharofat*:] *I'm sitting there with a your children, and this man [Sidiqjon] is kissing the skirt of the megajins here*. A.Qahhor, Koshchinor lights. *Speak, ((megajin) cynical witch!)) Why did you come here?* K.Yashin, Hamza.

There are several cognitive states that need to be addressed. The commentary notes that the word has a knowledge structure in the Mongolian language called "*female kabon*". Thus, in the structure of knowledge underlying the concept of *megajin* in the Mongolian language, the concept of "*kabon*" does not differ on the basis of the female / male sign. It narrowed as it assimilated into Turkic languages, particularly Uzbek - the concept carried the "masculine" part of the concept of "female / male". Cognitive integration occurs with the subject's cognitive purpose. The cognitive goal is to understand, comprehend, and form knowledge on that basis. Cognitive goal is combined with communicative goal. The communicative goal is to convey information about the being to the listener and to influence his psyche. The second part of this goal is characterized by occurring above or below the subconscious. [17] Based on the metaphor, both the invisible world and the visible world take on a special character - qualitative changes take place in the knowledge about it. This is called conceptualizing. "On the basis of conceptualization of action lies the anthropometric principle of metaphorization.[18] "The conceptualization of reality is based on the anthropometric principle of metaphorization. On the one hand, the "secondary", "non-objective world" arises only as a result of the interpretation by the cognizing individual of the facts in their abstraction from the objective reality, "and on the other, this distraction is again concretized through comparison with the figurative perception of any features of this world , with stereotypes functioning in a given culture, and even with mythical notions."[19] Инсоннинг метафорик қобилияти унинг сезги аъзоларининг ривожланганлиги билан боғлиқ. Аммо уларнинг ҳар бирига кишининг интеллектуал қобилияти ҳамроҳлик қилади. An induviduals metaphorical ability is related to the development of his sensory organs. But each of them is accompanied by one's intellectual ability. Intellectual ability allows us to see and evaluate events that others do not understand or see. For this reason, metaphorical expressions created by sharp-witted people, metaphors and allusions in art, and various other works of art are highly valued. Examples: 1. *Time is a* ***great teacher****, but it defeats its disciples.* (G.Berlioz). 2. *The man is happy who is able to stand up to the future, which is our* ***cassation court***! (Balzac). 3. *Time is the* ***fabric of life***. (B. Franklin*) 4. Tomorrow is an* ***old hook*** *that can deceive you.* (S. Johnson) *5. Love is an* ***incomparable deception*** *that man voluntarily agrees to.* (A. Pushkin) 6. *Hatred is the* ***revenge*** *of a coward for the fear he feels.* (B.Shou). 7. *Love and friendship are* ***synonymous echoes****: they get as much as they give.* (A. Gertsen) 8. *Polygamy is the act of* ***getting more*** *out of life than what it has.* (E.Habbard). 9. *Happiness is just a dream, and sorrow is a* ***reality***. (Voltaire) 10. *Moment is the* ***unit of measurement*** *of happiness*. (V.Jemchujnikov)

"Metaphor is often found not only in literary works, but also in science, philosophy and jurisprudence, it is effective in praise and insult, supplication and promise, description and prescription. I agree in principle with Max Black, Paul Henle, Nelson Goodman, Monroe Beardsley and others on the function of metaphor. True, it seems to me that in addition to the above, it also performs functions of a completely different kind. "[20]

Hence, when it comes to the cognitive nature of the metaphor, it should be noted that the human senses and intellectual capacity are integrated. It should be noted, however, that human intellect predominates. After all, man, the creator of metaphor, is a cognitive presence.

The interpretation of the anthropocentric metaphor is, as has been said, based on the cognitive model of "the universe in man" and "man in the

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universe". In world linguistics N.D.Arutyunova, Yu.D.Apresyan, V.N. Teliya, A.A.Ufimtseva, V.G.Gak, E.V.Uryson, B.A.Serebrennikov, T.V. The research of Bulygina, A.D. Shmelyov and other scientists is one of the best works based on this model.[21] They laid the foundation for an anthropocentric approach in linguistics, laying the foundation stone of it. Their work in this area has continued in specific areas of linguistics in the context of specific issues.[22] The problem of the human factor in language is expressed by N.D. Arutyunova as follows: "Man has imprinted in the language his physical appearance, his inner states, his emotions and his intellect, his attitude to the objective and non-objective world ..." Man has imprinted himself in the names of natural objects ... In almost every word, you can find traces of a person. Language is anthropocentric through and through. The presence of a person makes itself felt throughout the entire space of the language. "[23]

A metaphorical model works on the basis of the associative connection between objects. "A metaphorical model that combines a wide range of semantic relationships" nominative meaning, figurative, metaphorical meaning "... the structure and content of the model are set by the nominative meanings of lexemes and their organization in the structure of the semantic field. ... the structure of the semantic field is a linguistic reflection of the structure of the cognitive. "[24] The rise of the lexical system of language to a new qualitative stage, the fact that lexicographic interpretations are based on systematic lexical-semantic interpretations, requires new approaches in the system of derivative meanings.

The metaphorical model is emerged on the basis of a three-tiered relationship:

a) the relationship between denotations;

b) the relationship between the referants;

c) the relationship between meanings.

The first is the basis of the metaphorical model, the second is the core of the metaphorical model, and the third relationship is the product of the metaphorical model. Each metaphorical model has internal networks.

The relationship between the metaphorical model plays a fundamental and decisive role in the formation of the derivative meaning. This element in the status of the connecting link exists in the form of similarity between denotations, commonality between referents, integrals between meanings.

In the anthropocentric metaphor, this model is privatized in the form of "Man - the world", "The world - man". In the first direction, human ***nomema*** (*lexical unit, ant: semema*) means presence, and in the second direction, world nomema means man. Different aspects of man give rise to a variety of metaphorical figurative meanings. Human characteristics include the concepts of "Man - a biological phenomenon", "Man - anatomical phenomenon", "Man - a social phenomenon", "Man - a functional phenomenon".

As a biological phenomenon, man exhibits the characteristics of all living things. Living things are born, nourished, grow, and finally die. Part of the whole human conceptosphere is made up of concepts that correspond to these processes.

Birth is a general and basic concept that is common to all living creatures. Of course, this concept does not require proof that it was first applied to man himself, as well as to other phenomena. Today, the scope of this concept has expanded, the word that reflects it has been rounded up, and its roots have become invisible in the shadow of its "sparkling body." The word *birth* cannot be interpreted without the verb to *give birth*. At first glance, the use of the verb congenital may also evoke the phenomenon of dysphemization. But just as euphemisms lose their properties over time, so the product of dysphemization can be neutralized. Also, as a result of the application of a human characteristic to express other phenomena in existence, its basic denotative meaning comes to mind, and in denotative semaphores a quantitative change occurs that provides a qualitative change.

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Impact Factor:					
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	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS
International Scientific Journal
Theoretical & Applied Science
p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)
Year: 2021 **Issue:** 09 **Volume:** 101
Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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DEVIATION CASES TO CODIFIED SPEECH OF THE ORAL CONVERSATIONAL LANGUAGE

Abstract: *It is known that all language units are involved in speech, but all elements of the unity of speech may also be reflected in the unit of speaking. Language is a social phenomenon, but it will be available in the form of an individual in speech, i.e. the component of language speech is its main essential essence. The speech is manifested in two different main views - oral and writing. An oral speech has an advantage over the written speech, but "when it comes to scientific and technical speech, the Dixotomy, "oral speech -written speech" decided the advantage in favor of written speech".*

In our opinion, the reality is the meaning of the realities that restrict the possibilities of the language and simultaneously provide the possibilities of expression of expression. As a result of codification of words, verbal and written speech differs.

The article deals with the cases of deviations from the norm of oral conversational language and their causes, the purpose of deviations from the grammatical norm, the issues of authorial transformations.

Key words: *written speech, written speech, semantic structure, dihotomy, coded alomadic norms, modifiedly alomadic norms, okkozionalism, normative.*

Language: *English*

Citation: Mamatqulova, S. S. (2021). Deviation cases to codified speech of the oral conversational language. *ISJ Theoretical & Applied Science, 09 (101),* 723-726.

Soi: http://s-o-i.org/1.1/TAS-09-101-98 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.98

Scopus ASCC: *1203.*

Introduction

At the same time, linguist A.L. Pumpyanskiy it should be noted that the "oral speech -written speech" it is worth noting that written speech is suitable for the correct determination is very appropriate.

The most important feature of oral speech is previously developed and ready, i.e., automatism in the use of molded tongue, and it has a positive impact on the effective use of oral speech. "It is known that the fact that the speech cannot voluntarily selected the finished speeches and methods of the comer's finished speeches and methods - along with the maximum use of the message, as well as not freely formally presented, as well as not freely formed. That is why the issue of the nature of the unlimited literary speech standards is the issue of its nature itself"[1].

In our opinion, one of the second important symptoms of the speech is the use of relatively short forms, and it provides force and time in the process of conversation. French recovery in this regard, A. Martine: "The constant language of communication between human community needs and their mental and physical efforts may be found as a driving opportunity to change. As in a series of other cases, human behavior here is subordinate to the law of the minimum voltage"[2]. We emphasize that this views are a continuation of these ideas – "human laziness" can be shown as an important reasons for language changes.

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Main part.

Indeed, the emergence of words such as the very much syllable *speedboatdeathblazerescuebidman* can be explained by the aspiration to save money energy. It is achieved through auxiliary words and actions connecting in a multi-syllable conversation, as well as graphically integrated use.

If we are more analytical towards the issue, for example, R. Swift identity of the horse's preposy determination in the *Sort of I-know-you-don't-know-me-see-what-I-can-do sort of smile*. Without the connection, the uninterested question is used as a connector of the two followers, that is, the complex identification of the horse connected two followers, connected with the entire *Sort of I-know*. It is also advisable to show that the meaning of the word *smile* is also equivalent to the meaning of a whole feedback.

This means that written talk is unlike verbal speech, man does not require much physical attempts. Oral speech is to free physical attempts and save speech time, the use of identifies unknowns eases and saves speech.

It should be noted that such innovations are also available, that is, the content of the content, on the scope of the content, is natural to lose content. Understanding such semantic structures (especially the first sentence) will often depend on the difficult and human ability.

In short, the use of ready, usual speech molded phrases, brings closer to a stereotype of the speech. Dihotomy, which is "normative - not normal, determine the specific nature of the norms.

O.A.Lapteva noted that the obligatory generalization is high, the obligation of oral literature, as a collection of speech tools that can be normally universal allow us to be freely applied. On the other hand, in totaling speeches are valid in oral speech, along with other limited derivatives and can lead to various changes in coded speech[3].

As a result, the oral norms are provided in consumption with both coded and modifiedly alomadic norms.

It can also show its own laws, and as a result of the same code, the norms that are different in oral speech can be available.

At the same time, we can see the source of thought stated that the source of all changes in language is speech. However, it is impossible to cover all stages of language changes at the same time for observation and analysis. Therefore, we will focus on the deviations of words of words and expression in our analyzes. It should be noted that the concepts of the word used in the word available in the general language are different concepts with a different abstract level[4]. The words used in the speech will have a series of features that are permanent. These features are: a) immixture to speech, b) nor-normal, c) in term of the functional one-time, d) artificial word, e) to be expressive, f) Word formation productivity, g) Synchron-diachron decades, h) Individual belonging to[5].

Individual-circular derivatives, which are symptoms of shape shown above, such as English *to be electronized*[6] or *angst* "okkozionalisms" the issue indicates that the attention of linguists should be increased to the issue of insufficient illustrates dictionaries.

In our opinion, the content of the unconventionalism of the "Okcioonism" would be further developed by the creation of the scientists and helped the improvement of the language. After all, the change in words of words provides particular significance and placement in the syntax of expression.

Instead, we know that it is necessary to emphasize the following:

a) all elements of the unit of speech must have codifiology and practical application examples to find reflection in the language unit;

b) grammar guidelines for its general importance, due to the elements of language apply only in the form of an individual accident in the speech, is of great importance;

c) the source of oral speech is needed to deeply understand the written speech and quality codification of language elements without rehabilitation and individual speech, and the individual speech orbal speech;

d) it is advisable to predict the impact of formal changes in the incomparitive effects of the language, without forgotten that the reverse results of the change is,;

e) we believe that as a result of the constant application of the molded phrases in the speech, the issue of separate incorrect incidence should be increased;

f) strengthening the quality of scientific and technical literature materials to ensure the reasons for the permanent development of oral literary norm should become a pressing issue;

g) It has become a tradition that the practice of translation of other languages is mainly associated with the translation of translation through other languages, mainly into our tongue and raised all the new words and phrases that entered into Russian. Strengthening the use of the original language material in the practice of translation, especially

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English, strengthens the import of innovations in the practice of translation and contributes to the development of language methods.

Results and discussions.

The current English grammar creates a certain contradiction with the standardization of its systematically, and is also characteristic of the unexpected "freedom" in the speech. For example:

The best thing he does is sing. The best thing he does is sings.

The best thing he does is to sing. The best thing he does is singing.

In the above example, instability and variability in the morphological types of the statements shall confirm that our opinion on certain contradictions and the thought of freedom in the same time.

The options of these statements in the given example have been compiled and recommended mainly to grammatical rules. However, the fact that the language material is not allowed to explain the content of the sentence, that is, involved in the opening of the contents of the sentence, and the participation of help verbs are not determined in grammatical rules and considers it as a mistake to participate in two auxiliary verbs in one sentence. But if you do not, plus the content of speech *does* and *is* the auxiliary verb used in the above at once four sentences in the same case as well as for conversational speech application error has not been demarcated.

The variants of the sentences in the given example are structured according to grammatical rules and recommended for use. However, the excessive use of language material in this way is not appropriate for the purpose of disclosing the content of the sentence, i.e. the presence of the auxiliary verbs *does* and *is* in the expressed sentences is not defined in the grammatical rules and the presence of two auxiliary verbs in one sentence is a mistake. Furthermore, it is important to note that it should become a key indicator for analysis that the Sing verb is changing in every sentence. It is believed that when all the options are treated grammatically, such things are used for the fact that the words of orally and literary norm is given one meaning and the listener understands is not complicated. It can be conclusively, the superiority of the speaking language is the availability of its "free" expression. The grammatical guides of English also recommended that words are maintaining the radios: *N – V*, for example: 1. *…he didn't want somebody to tell his wife who* ***the real father of Blanche was***[7].

In this stat, the writer used a clear articility that is used in the cases known for the right to the interlocutors, which is accepted as tradition in English grammar. But one of the content attendants does not know who the person is. The signal of the signal result is selected correctly. In the second mention, the writer is noticeable as an unknown common horse, that is still used to know the explanation as an unknown common horse, and the interlocutor is still in the unknown articility, and the interlocutors have formed it directly to the explicit of the clear articids.

The description of the Sheva signs in oral speech that does not follow grammatical rules, low level of knowledge, are explained in the following examples:

1. "Sam, why don't you go ***junkin'****?" … I said to him: "There* ***ain't*** *enough in it." … "Look," he says, "you are a regular guy. I know* ***you been looking*** *for a job. I also know you* ***cain't*** *get* ***none****. And I also know why.* ***D'ya*** *want me* ***tuh*** *tell* ***ya*** *why?" "Why?"* ***I asks. "Causeyou a*** *nigger, thass why!" he says. "It's a cold frck we're* ***getting'*** *up here in Harlem. We get fed a lot of bunk about opportunity* ***an'****ather crap, but* ***thass*** *all. I studied to be a bookkeeper up in school. I graduated with honours too – highest marks in the class. But when I* ***goes*** *out for a job* ***thass*** *another story. White boys, no matter how dumb they are,* ***gets 'em****. All we kin get is the crap,* ***sweepin'*** *up the place. Well, to hell with '****em!Gitwhutyuh want"*** *"It's easy to talk big," I says. "I* ***ain'ttalkin'*** *big," he says, "I'm* ***talkin'*** *strait stuff. We got a guy who buys secondhand stuff,* ***an'*** *he* ***ain't*** *too particular about where it comes from. He pays good money too." "look,"* ***I says****, "I* ***ain't no*** *dope, but all* ***yuhgotta*** *do is get caught. Up* ***you goes****." "…* ***thass*** *figured out too.* ***Yuh*** *see only you kids do it.* ***If'nyuh*** *get caught,* ***you is*** *just some kids* ***havin'*** *fun, not* ***realizin'*** *any harm would come of it. But* ***yuh don't caught****. It's all fixed." "How?"* ***I pays*** *off the cops. Whenever a job is pulled, the cop is down at the other end of the beat. But* ***I fixes him is my business****. All* ***yuhgotta*** *do is what you're told.* ***Int'risted****?" "Maybe,"* ***I says****, "I* ***gotta*** *think about it." "O.K.," he says, "but* ***remembuh****. Keep* ***yuh*** *lip buttoned or - !"*[8]

2. Don't ***wanna*** *sleep, don't* ***wanna*** *die*[9].

Informations of all norms in these texts are mainly three, which are mainly three: 1) changes in reducing, superprinting and form form.

1. Reduction (shrinkage) on a single word: *junkin' (junking), gettin' (getting), 'em (them), havin' (having)* or to manifest on two words: *d'ya (do you), thass all (that's all).*

2. The supercorrection is characterized by adding the unit deficit of the unit of unit, not only the third party, which require a grammatical norm for the present time: *I asks, I says, you is, you gets, you goes, I fixes, I pays. Modern English (ME)ða Present Simple tense* the split form of the sentence in a third party (*he, she, it*) are made with the addition of the key verb,

[7] Bellers G. Death in High Provence. – Penguin Books,1958, 223p

[8] Robbins H. Never Love a Stranger. – New English Library, Times Mirror, 1958. – 19p

[9] Capote T. Breakfast at Tiffany's. – New American Library, Times Mirror, 1961. 19p

and in front of the deficiencies above, we can watch the use of the above settings to all individuals.

3. The change of Word forms is common in an unnamed speech. First of all, such changes are caused by unusual application in fluent utterance. For example, the load is set before infinitive and connects to the previous verb, and it forms a new form of the word. For example, *want to sleep* will turn to the */wɔntə slip/*, in turn, take the Reduction of **t** */wɔnə/* - *wanna /wʌnə/* views. This process is often observed in the most used compounds: *I'm going to go → aim 'gountə 'gou → ai gɔnə 'gou → A. E. Ai 'gʌnə 'gou; you ought to go → ju ɔ:tə 'gou; you got to do →yuh gotta do.*

Conclusion.

In short, this classification allows you to understand even more deeper norm in the language that the share of the codling norm in the language is very high and that other norms can form other norms. Speaking in classification The scale of the norm is as small as a drawing, but we emphasize that the giving outside the limit of the drawing is to express infinity.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 9.035	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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HISTORIOGRAPHY OF THE DEVELOPMENT OF SECONDARY EDUCATION IN UZBEKISTAN

Abstract: *From the first days of independence, Uzbekistan has consistently pursued a policy of education reform as a necessary and mandatory condition for the most important direction of the process of reform and renewal of society, democratic change in society, sustainable economic development, integration of our country into the world community. The achievement of state independence of the Republic of Uzbekistan and the choice of a specific path of economic and social development necessitated the reorganization of the structure and content of training. As a result, our country has developed and implemented an education system aimed at training world-class personnel in the field of education.*

Key words: *education, development, historiography, secondary school, scientific articles, higher education, educational reform, historiographical analysis, historiographical conclusions, methodological aspects, programs and projects.*

Language: *English*

Citation: Ne'matov, S. U. (2021). Historiography of the development of secondary education in Uzbekistan. *ISJ Theoretical & Applied Science, 09 (101),* 727-730.

Soi: http://s-o-i.org/1.1/TAS-09-101-99 ***Doi***: crossref https://dx.doi.org/10.15863/TAS.2021.09.101.99

Scopus ASCC: *3304.*

Introduction

Today, education is one of the most important components of human development and plays a key role in solving important problems of society. Education, as an important component of human development, has an unprecedented impact on overcoming a number of social, economic, political and humanitarian problems.

Viewing education as an integral part of human life and as an important tool in realizing that it plays an important role in society has changed over the centuries, from antiquity to the present day. For example, in the middle of the twentieth century, education was one of the most important components of the system of certain states as a rigid and closed system, and by the end of the twentieth century, human life and conditions were qualitatively developed and developed at the individual level. Due to this change, the education system of the world began to undergo significant changes. The rapid development of education in our country in recent years has made it one of the important factors in the development of man and society.

Main part

As the First President of the Republic of Uzbekistan I. A. Karimov said, "We must draw conclusions from the painful periods of our history. The young people who will replace us tomorrow must be armed with the truth of this history. Because only a generation that is second to none in any field can build a great state. Because to build a great state, we need people who are enlightened, who know history, who can learn from it. "[1,p.22].

The works of the head of our state Sh.M.Mirziyoyev also reflect the responsible aspects of the great profession of a teacher, the sense of pride of our people in our teachers and coaches. ". .We cherish the bright memory of our ancestors and keep it in our hearts forever. We are immensely proud of our teachers, coaches and contemporaries who have shown their unwavering will, dedication and courage

and dedicated their lives to the comprehensive development of our beloved Motherland" [2,p.5]

Results and Discussions

As for the historiography of the chosen topic, first of all it is necessary to dwell on the period of the former Soviet regime. Because during this period, the history of our country, the historical events and processes that took place in it, the history and traditions of our statehood, socio-economic and political processes have been falsified, and the cases of their misinterpretation have increased. Unfortunately, these conditions were also present in the system of secondary schools, which are the main link in the formation of the spirituality and worldview of young people. The Soviets made extensive use of schools, vocational schools, colleges, and universities as places to propagate their communist ideas.

With this in mind, a system of scientific and practical guidelines was developed for young people to study and apply the ideas of the ruling party on a large scale. Many scientific works and research works on the history of public education, such as PhD and doctoral dissertations, reflected the same goals. In them, the positive aspects of the Soviet regime's secondary schools were scientifically studied on the basis of the principles of the former ruling ideology. Therefore, in determining the level of scientific research of the problem, it is expedient to analyze the literature and research work on the subject, the historiography of the secondary education system in Uzbekistan during the years of independence in three parts.

The first part of the literature and scientific research on the subject was conducted in 1991-1997, in which free and objective research was carried out under the conditions created by our independence. A number of scientific articles [3], monographs [4] and studies written in the early years of independence of our country are much closer to our topic. A. Mavrulov's doctoral dissertation [5,p.40], which was carried out during this period, studied our cultural life in 1970-1990, in which the pedagogical and aesthetic conclusions on the education of young people were approached on the basis of real events in society. New methodological aspects of this scientific work are important for our research.

Another of the researches of this period was K. Ergashev's doctoral dissertation on "Development of secondary schools in Uzbekistan, 1970-1990: problems and trends", which was written on the basis of new methodological views and critical observations. It is invaluable to our research with its new scientific findings and recommendations on education.

The research of the second part includes the adoption and implementation of a new version of the Law "On Education", the adoption and implementation of the National Program of Personnel Training and the State National Program for the Development of School Education, ie 1998-2010. years of work. Based on the research of this period, the dissertations of R. Siddikov [6] and D. Vasiyeva [7] deserve special mention. In this study, as a result of the implementation of the tasks of the National Program of Personnel Training in Uzbekistan, updates in vocational and higher education, membership in the National Program, ie interaction with academic lyceums and vocational colleges of secondary schools and higher education. dependence has been studied and highlighted analytically. The opinions and conclusions of the researchers in the field of education are very important for our research.

It is also worth noting a number of research papers that sought to highlight the scientific and pedagogical significance and importance of the National Training Program adopted in 1997. The articles, literature, monographs and journalistic works of H.Saidov, R.Akhliddinov [8], B.Kadirov, Sh.Kurbanov, J.Yuldashev, L.Allayev [9], N.Kuvvatov, S.Ochilov, E.Seytkhalilov are important for our research.

Certain pedagogical aspects of the chosen scientific research topic are reflected in the dissertations, publications and articles of this period. However, these studies have been conducted in a scientific and pedagogical manner, in which the reform of secondary schools has not been studied in the historical direction. These studies are limited to some suggestions and conclusions that need to be made based on the key principles of the National Training Program in secondary schools.

Special mention should be made of the literature on the programs and projects identified in the first stages of educational reform, programs and projects, international and national scientific conferences, seminars. Although the comments and suggestions in these works are given in a pedagogical way, these materials are important for our historiographical conclusions.

The third part of the research can include work done in 2010-2019. According to the research of this period, T. Khotamov's dissertation on "The system of educational reform in secondary schools of Uzbekistan: problems, solutions and prospects (1991-2009) is of great importance. This scientific work highlights the beginning of educational reforms in Uzbekistan, the problems in secondary schools, as well as the existing shortcomings and their solutions. In addition, special literature, monographs, articles of this period are also important for our research [10].

The historiographical analysis of the subject shows that the period under study from 1997 to 2018 has not been studied extensively from a historical and scientific theoretical and critical point of view. In the research and literature of this period, the subject problems were mainly approached from a pedagogical point of view and not studied in a critical spirit. An

attempt has been made to study mainly the methodological aspects of the scientific work done on the subject to date. The study of the historiography of this subject has led to the following conclusions:

Conclusion

First, during the Soviet era, there was a lot of literature and research on the development of secondary school education, but it was mainly written in the form of the ruling ideology of the former regime, mainly about the role of the ruling party in the development of general education. Attempts were made to show it.

Second, despite the fact that pre-independence research was carried out on a somewhat new methodological basis, they retained the influence of the old stereotypes.

Third, although a number of scientifically and methodologically significant research works were carried out in the early years of independence, most of them were devoted to the history of Soviet-era secondary schools, with the independence period partially studied.

Fourth, apart from pamphlets and scientific articles on the history of secondary schools, during the period of independence only T. Khotamov's dissertation on "The system of educational reform in secondary schools of Uzbekistan: problems, solutions and prospects (1991-2009) written Scientific and analytical work on the adoption of the Law "On Education" in secondary schools in the post-2009 period, the implementation of the National Program of Personnel Training, the State National Program for the Development of School Education and its problems and solutions , generalized large-scale historical and scientific research has not been carried out. In view of the above, it is important to study the process of reform in secondary schools, which is one of the most important links in the education of young people today, and to summarize the accumulated experience, draw final conclusions and the scientific and theoretical essence of the reforms. disclosure is important.

Fifth, these are the cases for the scientific study of the historical processes of reforms in Uzbekistan, carried out on the basis of the Law "On Education" and the "National Training Program" and the "State National Program for the Development of School Education." we can say that it was the basis.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
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SOI: 1.1/TAS DOI: 10.15863/TAS
International Scientific Journal
Theoretical & Applied Science
p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)
Year: 2021 **Issue:** 09 **Volume:** 101
Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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THE NECESSITY OF MULTIMEDIA IN TEACHING RUSSIAN LANGUAGE

Abstract: *In teaching and learning a language requires lots of efforts to put in acquisition linguistic skills. Furthermore, we cannot always reach the aim what we expect beforehand, therefore, we should use all possibilities in order to improve our skills in Russian language. Besides, language learning is complex process and long-learning too. However, multimedia may alleviate our performance in teaching Russian language. What's more, multimedia gave us great opportunity to use and perform active, deal with issues and find a solution in teaching and learning a language. This paper highlights the peculiarities of the world of digital, which equip us with deep knowledge and enable us investigate further aspects of study.*

Key words: *Russian language, multimedia, opportunities, alleviation.*
Language: *English*
Citation: Aminova, Z. P. (2021). The Necessity of Multimedia in Teaching Russian Language. *ISJ Theoretical & Applied Science, 09 (101),* 731-733.
Soi: http://s-o-i.org/1.1/TAS-09-101-100 ***Doi***: crossref https://dx.doi.org/10.15863/TAS.2021.09.101.100
Scopus ASCC: *1200.*

Introduction

Accessing to vast of culture of other nationalities and their education, outlook, requires us a wide knowledge of language in theory and practice, meaning from grammar to speaking point of view. In teaching language is not easy, that enable us to be active and being motivated to involve learners' attention, feeling, aim of learning, language expertise, and others. However, at present, we have lots of opportunity to teach languages via digital resources such as multimedia increase learners' linguistic abilities and enable them to be able to utter their thoughts without boundaries, which also alleviate our job of performance, having given us a range of tools to control the class. Multimedia is a combination of more than one media type such as text (alphabetic or numeric), symbols, images, pictures, audio, video, and animations usually with the aid of technology for the purpose of enhancing understanding or memorization (Guan et al., 2018). It supports verbal instruction with the use of static and dynamic images in form of visualization technology for better expression and comprehension (Alemdag and Cagiltay, 2018; Chen and Liu, 2008). The hardware and software used for creating and running of multimedia applications is known as multimedia technology (Kapi et al., 2017).

The positive impact of multimedia resources in teaching languages

Dynamic solution to teaching Russian language to engineering students is to alter traditional methods to modern one which enrich their knowledge in learning languages. Engineering language has variety of terms which characterize the area of learning subject matter as well as Russian engineering, especially, agriculture has great terminology depicting plants, seeds, soil, and equipment, machines in use. Meanwhile, it is complex to gain technical terms in the world of plants and soil. Moreover, multimedia technology has some characteristics like integration, diversity, and interaction that enable people to communicate information or ideas with digital and print elements. The digital and print elements in this context refer to multimedia-based applications or tools used for the purpose of delivering information to people for better understanding of concepts. ICT involves the use of hardware and software for the purpose of collecting, processing, storing, presenting,

and sharing of information mostly in digital forms. Multimedia technology is an important aspect of ICT that deals with how information can be represented and presented digitally, using different media such as text, audio, video, among others (Guan et al., 2018). It involves the combination of several technologies provide information in the best possible formats, packages, and sizes (M.D. Abdulrahaman, N. Faruk, A.A. Oloyede, N.T. Surajudeen-Bakinde, L.A. Olawoyin, O.V. Mejabi, Y.O. Imam-Fulani, A.O. Fahm, A.L. Azeez.2020:1) .

We also are able to use multimedia resources for drama purposes, just involving students feeling different behavior, and taken Khasan Abdinazarov's statement on teaching vocabulary to ESP students. He revealed students are unable to acquire subject-oriented vocabulary in ESP classes; therefore, they have to pursue word acquisition out of classes. In fact, vocabulary formulate their concise in comprehending language in all skills (speaking, reading, writing and listening) as it is fundamental base to extend horizons of knowledge in language abilities and multimedia resources are very dynamic in this purpose of learning (Kh. Abdinazarov. 2021:1). Besides, students will be expected to write short reports and should be able to understand textbooks and journal articles. Oral communications will include exchanges with fellow students and tutors in order to discuss subject-specific information, and to articulate problems. Students who opt for industrial placements during their studies or need foreign languages in the workplace will also find subject-related speaking and listening skills indispensable. Most work environments will require students to understand and articulate work-related instructions, to read manuals and construction plans, to ask for information or clarification, to make suggestions and to describe processes and materials. Both exchange students and trainees will have to deal with specialist texts for research purposes (A. Dlaska.2002:131).

Enhancing linguistic skills of learners via multimedia

As we know, any language has four skills to acquire, they are listening, reading, writing and speaking, which gives learners proficiency to have. Listening skills enhance Russian language learners to understand the sounds, words, terminology in engineering as they are in the process of watching documentary films or audio-books on variety of topic relating to their specialty. In such case, multimedia alleviates us to improve our listening skills. Additionally, through listening to multimedia we can reach in recalling words without repeat and get to know more new words and terminology in the area of agriculture engineering. Multimedia not only gives us new word what we prefer but also it motivates us to speak in Russian language by being aware of how to pronounce and make up sentences using engineering terminology in L2. By speaking and writing in other language comparing to native language, we produce new phrases or remembered dialects, dialogues, those promote us expanding vocabulary knowledge which is very helpful in writing the idea we expect. What's more, a lot of linguists (Sivapalan. S, Wan Fatimah Ahmad & Nur Khairun Ishak, Muller. V, Bowen. B. M) have made a contribution to the methods in increasing linguistic skills of learners by the using multimedia resources.

Conclusion

Multimedia designs the classes with wide range of digital tools/equipment which strengthen learners' motivation in learning engineering Russian language. As a consequence, it enables them to cope with language behavior such as complexity and misunderstand. Therefore, we need to use more multimedia resources, to get more effective results in teaching Russian language to engineering. It also gives learners a chance to apply their communication skills and take risks to demonstrate their opinions in L2. Consequently, drama as a teaching technique creates supportive intellectual and emotional environments which encourage students to consider.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
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	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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METHODS OF TEACHING RUSSIAN LANGUAGE BY MAKING A DIALOGUE

Abstract: *In teaching students in the field of engineering we have to know a wide range of instruments to implement because of requirement of companies in this society where Russian language is paramount. As a consequently, any language has to be spoken rather than written because learners needs improving speaking skills that they may use in target environment where experts ask in L2. This paper highlights some specific methods in enhancing oral production of learners in L2.*

Key words: *methods, engineering, teaching.*

Language: *English*

Citation: Aminova, Z. P. (2021). Methods of teaching Russian language by Making a Dialogue. *ISJ Theoretical & Applied Science, 09 (101),* 734-736.

Soi: http://s-o-i.org/1.1/TAS-09-101-101 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.101

Scopus ASCC: *1203.*

Introduction

Acquiring education in a foreign language implies development of the professional competences with the students that allow communicating in different situations. As a consequence, the student should be able to use the Russian language fluently as an instrument for communication, be prepared for an active communication in agriculture processes and social and public spheres, be able to record, present, report, and discuss the results of professional activity. In addition, the student should be ready to develop regulations, engineering documentation, as well as proposals. The content of the programs of teaching Russian as a second language involves mastering of lexico-grammatical minimum development of oral and written communication skills that allow for communication in professional topics, such as agriculture in Russian. What is more, learning and being able to express his/her thoughts on any subject or specific issues, learners have to gain lots of fundamental knowledge of vocabulary and sentence structure and phonetic explanation of any words occurring in Russian language, especially, in the area of agriculture (Akishina & Kagan, 2010; Kryuchkova, 2011).

Acquisition of Russian language in agriculture sphere

The students may acquire knowledge of agriculture in L2 at classes of Russian language:

- Communicative skills;
- Making a dialogue;
- Being introduced to Culture of that sphere;
- Sentence construction;
- Linguistic prose of official documents;
- Rules of speech (business) etiquette;
- Language features of the private documents.

The structure and content of the language course allow them gaining experience in business communication, presentations, debates, discussions, brainstorming. The development of these competences is based on the study of the lexico-grammatical system of the Russian language.

The main task of the teaching is to develop professional competences that allow learners thinking creatively and independently, in such way, promote them producing original thinking results, defining terminology clearly. Thus, the ability to communicate in the foreign language in business sphere includes not only the skills of effective business communication in different formal situations in compliance with the official rules of business custom, but also the ability

to act professionally in this field. This task cannot be performed on the basis of standard dialogues that reflect the cultural and linguistic characteristics of business communication in L2. A lot of linguists (Artemeva, N., Logie, S., & St-Martin, J, Munby, J, Widdowson, H.G, Munby, J) have made contributions to communicative approach in teaching Russian to engineering students.

Conversation

One of the major objectives of teaching the dialogic communication in business sphere for the foreign students is to develop the business dialogic communication skill. Here several stages can be identified: elaboration of the concepts on the specifics of oral and written communication, conversational and intelligent manner of speaking, dialogue in business sphere, development of the skills of the ready-made oral speech pattern preparation, analytical skills, editing and self-revision of the dialogue.

Moreover, teaching the business dialogic communication in L2 allows developing the skills of the coherent oral and written communication, taking into account such important characteristics of speech as functions, forms, types, functional and semantic, functional and stylistic and compositional forms of speech.

Therefore, teaching the dialogic communication in business sphere meets not only the objectives of the professional education, but also is relevant to the general concept of "communicative law" (Belchikov, 1988). Dialogic speech in business communication has its own characteristics. It is, of course, verbal, verbal speech in business communication takes the form of a codified language; i.e. it is determined by level of formality, preparedness, mutual awareness of the speaker and the interlocutor on the subject, the degree and type of communicative intentions of the speaker (focus on the listener, object, form of speech, purpose of presentation).

Written Context

In teaching Russian, speech is main means to communicate in all spheres of dialogue but we should have 60% or 80% vocabulary words to communicate in L2. In such cases, authentic text based on profession may give use a lot of vocabulary words in different topics. Consequently, teaching the dialogic communication in business sphere should be based on the ability to create the texts of different functional-style and functional-semantic focus.

Learners and also teachers may use texts in Russian language to improve their speaking skills and increase their vocabulary words in the sphere of agriculture.

1) Виноград–это многолетнее растение, поэтому нужно очень ответственно, а главное заранее, подбирать для него место посадки. Важно учитывать биологические особенности выбранного сорта, для дальнейшего получения максимальной урожайности.

2) Практически все сорта винограда теплолюбивы и плохо переносят перепады температур в зимний сезон. Поэтому необходимо как можно тщательнее подобрать на участке место, где он будет защищен от сильного ветра и низких температур. Наиболее подходящим, в этом случае, для растения будет размещение около стен основного здания или приусадебных построек. Все дело в том, что за день стены в определенной мере прогреваются от солнца, что позволяет им отдавать излишки тепла виноградной лозе в ночное время. Кроме того, подобное расположение в значительной мере ускоряет сроки созревания ягод. Если стоит вопрос, какой виноград лучше посадить, то выбор надо отдавать районированным саженцам (6).

Conclusion

The command of foreign language implies the ability to respond fluently to various situations. Therefore, the main purpose of teaching Russian as a second language is to develop communicative competences, consequently, such skills as the ability to compose a coherent text, the ability to design verbal statements based on the written ones, the ability to take advantage of non-verbal interaction are highly important in the skills development of dialogic communication for students in the field of agriculture. Furthermore, speaking skills of learners will be improved by reading a lot of literature on agriculture, making a dialogue on subject, have a conversation with someone according to the topic.

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International Scientific Journal

Theoretical & Applied Science

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Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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THE EFFECT OF SOWING RATES ON THE VARIETIES OF GREEN AND DRY MASS COLLECTIONS OF CAREPT MUSTARD (BRASSICA JUNCEAE CZERN)

Abstract: *It was found that Carept mustard (Brassica junceae Czern.) Influenced Sowing norms for wet and dry mass accumulation of "Nika", "Gorlinka" and "Yunona" varieties. At the beginning of the flowering period, the total green mass of one plant is 104.91-179.70 g in "Nika" cultivar, 81.70-147.70 g in "Gorlinka" cultivar, 98.11-146.97 g in "Yunona" variety. The total dry mass of a plant is 13.41-23.07 g in the Nika variety, 10.25-19.86 g in the Gorlinka variety and was found to be 11.16-18.32 g in the Yunona variety.*

Key words: *Mustard, varieties, seeds, sowing rate, wet mass, dry mass, root, stem, leaf, flower set.*

Language: *English*

Citation: Iminov, A. A., Ochilova, U. D., & Yusupov, U. M. (2021). The effect of sowing rates on the varieties of green and dry mass collections of Carept mustard (Brassica junceae Czern). *ISJ Theoretical & Applied Science, 09 (101),* 737-740.

Soi: http://s-o-i.org/1.1/TAS-09-101-102 ***Doi***: crossref https://dx.doi.org/10.15863/TAS.2021.09.101.102

Scopus ASCC: *1100.*

Introduction

Carept mustard (Brassica junceae Czern.) Seeds contain 24 percent protein, 34-47 percent oil (iodine number 92-119), 0.44-1 percent essential oil, 24 percent NEM, 5.3 percent ash and 8 percent tissue. In the flowering phase is a nutritious green fodder for livestock. Green mass yield is 230-270 c / ha.

Wet mass and silage increase the milk yield of livestock, not inferior to grass hay in terms of protein content (14.9% protein and 9.8% digestible protein).

The importance of wet and dry mass accumulation is high in the cultivation of high and quality crops from mustard. Resistant to short-term cold and drought. It is long day plant. The growth period depends on the geographical region. In the northern region, the growth period is shortened. In general, the growth period lasts 70-115 days.

The roots release difficult-to-dissolve nutrients from the deeper layers to the upper layers and convert them into a form that other plants can assimilate. Mustard is grown for biological cleaning of the soil, because mustard is a disinfectant against fungi and other pathogens [1, 6, 7].

The degree to which the problem has been studied.

It is known that one of the most important tasks in agriculture is the reduction of soil fertility, the prevention of depletion of macro-and micronutrients required for plants. One of the most effective ways to maintain soil fertility in the current acute shortage of

organic fertilizers is to introduce into the soil the green mass yield obtained from them by growing siderate crops as green fertilizer. The use of mustard plant as a "green fertilizer" is of great importance in increasing soil fertility. A high green mass yield can be obtained from a mustard plant in a short time. Mustard plant has a significant effect on changes in the amount of nutrients in the soil. When most varieties of mustard are grown for seed yield, the optimal sowing rate is 7-8 kg / ha (at the rate of 1.3-1.5 million germinated seeds) [4].

In the conditions of the Republic of Udmurt in 2017, in the experimental field of the Udmurt Agricultural Research Institute, 2.0, 2.5, 3.0, 3.5 and 4.0 million pieces of mustard variety "Raduga" per hectare (12-24 kg /) due to lack of heat when planted in rates, the vegetation period of the plant increased significantly and the period from germination to full flowering was 48 days. The highest yield of green mass was obtained from 3.0, 3.5 and 4.0 million seeds per hectare (11.14; 11.60 t / ha) [4].

Research conditions and methods

Our research was conducted in 2020-2021 in the conditions of typical sierozem soils of Tashkent region, and the effect of sowing norms on the accumulation of wet and dry mass of Carept mustard (Brassica junceae Czern.) was studied. In our research, the norms of sowing mustard to 1.0, 1.5, 2.0 million pieces / hectare were tested.

The experiment included 9 options, an area of each plot is 60 m^2, of which 30 m^2 were taken into account. Four repetitions were conducted and the total area of the experiment was 0.216 hectares.

The research was conducted in the field and in the laboratory, in which the placement of field experiments, calculations and observations were carried out on the basis of "Methods of field experiments", plant analysis "Methods of state variety testing of agricultural crops" [2, 3, 5].

In the experiment, the varieties of Carept mustard (Brassica junceae Czern.) "Nika", "Gorlinka" and "Yunona" in the first ten days of March at the rate of 1.0, 1.5, 2.0 million seeds per hectare are planted at depth 2-3 cm.

Result and discussion

In our research, it was found that spring mustard influenced planting norms of Nika, Gorlinka and Yunona varieties on wet and dry mass accumulation. At the beginning of the flowering period of the plant (8.05.2021) the total green mass of one plant in the variety "Nika" was 104.91-179.70 g, in "Gorlinka", it was found to be 81.70-147.70 g, and 98.11-146.97 g in the Yunona variety (Table 1).

The highest concentration of green mass of the plant was observed in the variants of 1.0 million seeds per hectare. 54 g, the wet mass of the flower set was 3.61 g, the total wet mass of one plant was 179.70 g. In the variant where 1.5 million seeds are sown per hectare, the wet mass of the plant root is 11.21 g, the wet mass of the stem is 68.78 g, the wet mass of the leaf is 56.25 g, the wet mass of the flower set is 2.54 g. The total wet mass of one plant was found to be 138.78 g. In the variant of mustard plant planted at the rate of 2.0 million pieces per hectare, the wet mass of the plant root is 7.34 g, the wet mass of the stem is 51.74 g, the wet mass of the leaf is 44.02 g, the wet mass of the flower set is 1.81 g., the total wet mass of one plant was found to be 104.91 g. It can be seen that the increase in the sowing rate in the mustard plant resulted in a decrease in the total wet mass of one plant. However, the total wet mass yield per hectare was higher in the variants with increased planting rate.

At the beginning of the flowering phase in the Gorlinka cultivar, the wet mass accumulation of the plant was slightly lower than in the Nika variety, with 1.0 million seeds per hectare. The wet mass of the leaf was 60.70 g, the wet mass of the flower set was 2.93 g, and the total wet mass of one plant was 147.70 g. In the variant where 1.5 million seeds are sown per hectare, the wet mass of the plant root is 9.74 g, the wet mass of the stem is 62.55 g, the wet mass of the leaf is 40.17 g, the wet mass of the flower set is 2.61 g. the total wet mass of one plant was found to be 115.07 g. In the variant with 2.0 million seeds per hectare of Gorlinka variety, the wet mass of the root is 6.06 g, the wet mass of the stem is 46.61 g, the wet mass of the leaf is 27.09 g, the wet mass of the flower set. 1.94 g, the total wet mass of one plant was found to be 81.70 g.

In the variant where 1.0 million seeds are sown per hectare in the Yunona variety, the wet mass of the plant root is 9.97 g, the wet mass of the stem is 79.69 g, the wet mass of the leaf is 54.67 g, the wet mass of the flower set is 2 , 64 g., The total wet mass of one plant was 146.97 g. In the variant where 1.5 million seeds are sown per hectare, the wet mass of the plant root is 6.02 g, the wet mass of the stem is 65.13 g, the wet mass of the leaf is 41.87 g, the wet mass of the flower set is 2.55 g. The total wet mass of one plant was found to be 115.57 g. In the variant where 2.0 million seeds are sown per hectare, the wet mass of the root of the plant is 4.61 g, the wet mass of the stem is 59.75 g, the wet mass of the leaf is 31.81 g, the wet mass of the flower set is 1.94 g. The total wet mass of one plant was found to be 98.11 g.

According to the data on dry mass accumulation of mustard, the total dry mass of one plant is 13.41-23.07 g in Nika variety, 10.25-19.86 g in Gorlinka and 11.16-18.32 g in Yunona (Table 1).

The highest dry mass accumulation of mustard in the Nika variety was observed with 1.0 million seeds per hectare, 4.41 g dry root mass, 8.30 g dry stem mass, 10.07 g dry leaf mass, the dry mass of the flower set was 0.59 g, and the total dry mass of one plant was 23.07 g. In the variant where 1.5 million seeds are sown per hectare, the dry mass of the plant

root is 3.63 g, the dry mass of the stem is 7.11 g, the dry mass of the leaf is 7.74 g, the dry mass of the flower set is 0.42 g. The total dry mass of one plant was found to be 18.90 g. In the variant where 2.0 million seeds were sown per hectare, the dry mass of the root of the plant was 2.23 g, the dry mass of the stem was 5.65 g, the dry mass of the leaf was 5.20 g, the dry mass of the flower set was 0.33 g., The total dry mass of one plant was found to be 13.41 g. It can be seen that the increase in the sowing rate in the mustard plant has also led to a decrease in the total dry mass of a single plant. However, the total dry mass yield per hectare was higher in the variants with increased planting rate.

At the beginning of the flowering phase of Gorlinka variety, 1.0 million seeds were sown per hectare, the dry mass of the plant root was 3.48 g, the dry mass of the stem was 7.94 g, the dry mass of the leaves was 7.93 g. dry mass of flower set was 0.51 g, the total dry mass of one plant was 19.86 g. In the variant where 1.5 million seeds were sown per hectare, the dry mass of the plant root was 2.68 g, the dry mass of the stem was 6.81 g, the dry mass of the leaf was 5.78 g, the dry mass of the flower set is 0.44 g. The total dry mass of a single plant was found to be 15.71 g. In the variant with 2.0 million seeds were sown per hectare of Gorlinka variety, the dry mass of the plant root was 1.54 g, the dry mass of the stem was 5.07 g, the dry mass of the leaf was 3.31 g, the dry mass of the flower set was 0.33 g, the total dry mass of one plant was found to be 10.25 g.

In the Yunona variety, where 1.0 million seeds were sown per hectare, the dry mass of the plant root was 2.73 g, the dry mass of the stem was 7.94 g, the dry mass of the leaves was 7.20 g, and the dry mass of the flower set was 0.45 g, the total dry mass of one plant was 18.32 g. In the variant where 1.5 million seeds are sown per hectare, the dry mass of the plant root was 1.89 g, the dry mass of the stem was 6.74 g, the dry mass of the leaf was 5.40 g, the dry mass of the flower set was 0.41 g. The total dry mass of one plant was found to be 14.44 g. In the Yunona variety, where 2.0 million seeds were sown per hectare the dry mass of the root of the plant was 1.45 g, the dry mass of the stem was 5.54 g, the dry mass of the leaf was 3.84 g, the dry mass of the flower set was 0.33 g, the total dry mass of one plant was found to be 11.16 g.

Table 1. Accumulation of wet and dry mass in the flowering phase of varieties of Carept mustard (Brassica junceae Czern.) (8.05.2021)

№	Mustard varieties	Sowing rate, mln.pcs / ha	Green mass					Dry mass				
			root	stem	leaf	flower set	Total in one plant	root	stem	leaf	flower set	Total in one plant
1	Nika	1,0	13,82	83,73	78,54	3,61	179,70	4,41	8,30	10,07	0,59	23,07
2		1,5	11,21	68,78	56,25	2,54	138,78	3,63	7,11	7,74	0,42	18,90
3		2,0	7,34	51,74	44,02	1,81	104,91	2,23	5,65	5,20	0,33	13,41
4	Gorlinka	1,0	10,55	73,52	60,70	2,93	147,70	3,48	7,94	7,93	0,51	19,86
5		1,5	9,74	62,55	40,17	2,61	115,07	2,68	6,81	5,78	0,44	15,71
6		2,0	6,06	46,61	27,09	1,94	81,70	1,54	5,07	3,31	0,33	10,25
7	Yunona	1,0	9,97	79,69	54,67	2,64	146,97	2,73	7,94	7,20	0,45	18,32
8		1,5	6,02	65,13	41,87	2,55	115,57	1,89	6,74	5,40	0,41	14,44
9		2,0	4,61	59,75	31,81	1,94	98,11	1,45	5,54	3,84	0,33	11,16

Conclusion

It was found that Carept mustard (Brassica junceae Czern.) influenced planting norms for wet and dry mass accumulation of Nika, Gorlinka and Yunona varieties. An increase in the sowing rate in the mustard plant resulted in a decrease in the total wet mass of a single plant. However, the total wet mass yield per hectare was higher due to the increase in the sowing rate. At the beginning of the flowering period, the total green mass of one plant was 104.91-179.70 g in “Nika” variety, 81.70-147.70 g in “Gorlinka” variety, 98.11-146.97 g in “Yunona” variety, the total dry mass of a plant was found to be 13.41-23.07 g in the Nika variety, 10.25-19.86 g in the Gorlinka variety and 11.16-18.32 g in the Yunona variety.

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Impact Factor:					
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International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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THE INFLUENCE OF THE SEED QUALITY ON THE THICKNESS AND YIELD OF AUTUMN WHEAT GRAIN

Abstract: *According to results of experiments, it is necessary to sow high-quality seeds with a size of 2.5-3.0 mm for intensive growth and development in the field, in order to obtain a sufficient number of seedlings, ensuring a high and high-quality grain yield.*

In the experiment, comparatively high rates of seed germination of 71.5% were noted in the Kroshka variety in the condition of sowing seeds of 3.0 mm. In the experiment, the highest grain yield of 70.3 c/ha was observed in the Kroshka variety when sowing 3.0 mm of seeds.

Key words: *grain quality, Triticum durum, variety, experiment, yield, fraction, seed germination, additional harvest, the number of seedlings.*

Language: *English*

Citation: Azizov, B. M., Isroilov, B. A., Nazarova, M. B., & Zikiryoyeva, K. F. (2021). The influence of the seed quality on the thickness and yield of autumn wheat grain. *ISJ Theoretical & Applied Science, 09 (101),* 741-743.

Soi: http://s-o-i.org/1.1/TAS-09-101-103 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.103

Scopus ASCC: *1100.*

Introduction

UDC 633.111.1; 633.112.1

The growth and development of autumn wheat depends to some extent on the quality of the seeds. Planting quality seeds ensures that the seeds germinate and grow quickly in a short period of time [1; 2; 3].

The influence of seed quality on the growth and development of autumn wheat varieties in the country has been insufficiently studied and little is known.

The positive influence of seed quality on grain yield in our country in different years has been studied in the scientific works of G. Kurbanov, A. Omonov, Kh. Atabayeva and other scientists.

Numerous experiments have also shown that the effect of soil moisture and temperature on the field

germination of seeds in other species has been discussed [5].

However, most of the literature is limited to seed quality indicators, standard requirements for them and their description.

There is no scientific evidence on the positive effect of seed quality on grain yield. In this regard, scientific research in this area is of great scientific and practical importance.

According to data of B.M.Azizov, B.A.Isroilov, M.B.Nazarova, Z.Askarova, 195-213 pieces of sprout per 1m^2 area were sown when 1.7 mm seeds were sown in May, 417 seeds were sown when large 3.0 mm seeds were sown, 429 pieces sprouted. Due to the quality of seeds, winter wheat yielded 18.1-46.8 c/ha in Chillaki, 18.0-48.7 c/ha in Kroshka and 2.0-39.9 c/ha in Kakhrabo. Due to the quality of the seeds, the amount of gluten in the grain increased by 1.0-2.3% [4].

Methods and materials

Experiments have shown that seeds of different sizes have a positive effect on plant formation and grain yield. Field experiments were carried out in the conditions of typical irrigated gray soils of the Kibray district of the Tashkent region. The experiments were conducted in the experimental section of the Tashkent State Agrarian University. The soils of the experimental plot are typical sierozem soils of old irrigation.

Field and laboratory research, records, and phenological observations were carried out following generally accepted methodological guidelines. The experiment was set up, the statistical processing of the yield data was carried out by the method of analysis of variance according to the method of B.A. Dospekhov (1985)

During the growing season, biometric records and observations of plant growth and development were carried out.

In the experiment, it was used different fractions 1.7 2.0; 2.5 3.0 mm of winter wheat Kroshka, Chillaki and durum wheat Kahrabo; The influence of seeds of fraction 3.0 mm on the growth, development and formation of elements of the yield of various varieties of winter wheat has been studied. The experiment consisted of 12 variants and was carried out in four replications.

The experiments were carried out on the basis of "Methodology for conducting field experiments" by B.A. Dospekhova (1981).

Results and discussion

Calculations of seed germination and seedling thickness were carried out in accordance with the working program. Seed germination: 75% from the beginning of germination to the end of germination, calculations were made every 2-3 days. Seedlings were thickened in autumn, early spring and in the phase of maturation of development.

Experimental data on the effect of autumn wheat on seed quality on seedling thickness are shown in Table 1.

Experimental results show that seed quality has a positive effect on seed germination and seedling thickness. In experiments, field germination of seeds in variants with a fraction of 1.7 mm was 32.5% in Chillaki, 35.5% in Kroshka and 38% in Kahrabo. In the option with a seed size of 2.0 mm, field germination was 46.0% in Chillaki, 49% in Kroshka and 51.5% in Kahrabo. In the option with seed size of 2.5 mm, field germination was 57.0% for the local winter wheat variety Chillaki, 61.0% for the Kroshka variety and 72.0% for the Kakhrabo variety.

In the experiment, a relatively high field germination rate was 70.5% in Chillaki varieties and 71.5% in Kroshka varieties with large seeds of 3.0 mm fraction and 72.0% in Kakhrabo durum wheat variety. Seeds of 2.5 mm were observed under sowing conditions.

The results of the experiments carried out that field germination of seeds depends primarily on the accumulation of spare nutrients in them. Because large seeds have more nutrients, which in turn has a positive effect on the seed germination. In durum wheat varieties, it is advisable to sow seeds with a fraction of 2.5 mm, depending on the characteristics of the variety.

Table 1. Effect of seed quality on seedling thickness

№	variety	Seed fractions, mm	Sowing norms, c/ha	field germination of seeds, %	Plant quantity in 1 m^2, pcs	Grain yield, c/ha
1	Chillaki	1,7	6	32,5	195	20,0
2		2,0	6	46,0	276	33,1
3		2,5	6	57,0	342	48,7
4		3,0	6	70,5	423	66,8
5	Kroshka	1,7	6	35,5	213	21,6
6		2,0	6	49,0	294	35,0
7		2,5	6	61,0	366	52,2
8		3,0	6	71,5	429	70,3

9	Kahrabo	1,7	6	38,0	228	18,1
10		2,0	6	51,5	309	31,2
11		2,5	6	72,0	432	53,0
12		3,0	6	69,5	417	51,0

The seed quality was also reflected in the seedling thickness in the field. In the experiment, the thickness of the seedlings was determined from the calculation of the number of plants per 1 m^2 of the calculated area. In all cultivars studied in the experiment, relatively low values of seedling thickness were observed in variants sown with small fractional seeds. The number of plants per 1m^2 of the field was 195 for the Chillaki variety, 213 for the Kroshka variety and 228 for the Kakhrabo durum wheat variety. When sowing seeds with a size of 2.0 mm, the number of plants per 1 m^2 was 276 for Chillaki, 294 for Kroshka and 309 for Kahrabo.

In the experiment, relatively high values of seedling thickness were observed in varieties Chillaki and Kroshka with large seeds of 3.0 mm and in varieties Kakhrabo with average seeds of 2.5 mm. When sowing large seeds, the number of plants per 1 m^2 was 423 in Chillaki, 429 in Kroshka and 417 in Gahrabo. The greatest thickness of seedlings was observed when sowing 2.5 mm seeds of the Kakhrabo variety, 432 seedlings per 1 m^2.

Therefore, it is recommended to sow seeds 2.5-3.0 mm in the field in order to achieve sufficient germination thickness.

The quality of the seeds also has a positive effect on the yield of autumn wheat. In the experiment, relatively high rates were observed in all studied variants in variants with large seeds of 3.0 mm. The highest grain yield was 70.3 c / ha when sown with large 3.0 mm seeds of the Kroshka variety.

Conclusion

Planting quality seeds will ensure healthy seedlings in a short time. The quality of the seeds ensures the rapid growth of the grass. A relatively high seed germination was observed in the experiment, when 71.5% of the Kroshka variety was sown with a large seed fraction of 3.0 mm. In the experiment, the highest grain yield was 70.3 c / ha when sowing large seeds of 3.0 mm variety Kroshka.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 9.035	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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EFFECTS OF SOWING NORMS ON GERMINATION IN FIELD CONDITION OF CAREPT MUSTRAD (BRASSICA JUNCEAE CZERN) VARIETY SEEDS

Abstract: *It was found that the seeds of Carept mustard (Brassica junceae Czern) of Nika, Gorlinka and Yunona varieties influenced sowing norms in field conditions. Germination of mustard seeds in field conditions was 82.5-83.8% in Nika, 84.0-85.1% in Gorlinka and 85.6-86.5% in Yunona. Relatively high rates were observed in the variants sown with 1.5 million seeds per hectare, which is 0.3-1.3% higher than the variants sown with 1.0 and 2.0 million seeds per hectare.*

Key words: *Mustard, varieties, seeds, sowing norms, germinability.*

Language: *English*

Citation: Iminov, A. A., Ochilova, U. D., Yusupov, U. M., & Karimova, M. A. (2021). Effects of sowing norms on germination in field condition of carept mustrad (brassica junceae czern) variety seeds. *ISJ Theoretical & Applied Science, 09 (101),* 744-746.

Soi: http://s-o-i.org/1.1/TAS-09-101-104 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.104

Scopus ASCC: *1100.*

Introduction

Carept mustard (Brassica junceae Czern) is not demandable to external conditions, resistant to short-term frost and drought, a long day plant. The growth period depends on the geographical region. In the northern region, the growth period is shortened. In general, the growth period lasts 70-115 days. The seeds germinate at 2-3°C. It can withstand -3°C during germination and -7-9°C and below during leaf formation. The seeds germinate after receiving 121% moisture [9].

The degree to which the problem has been studied.

When most varieties of mustard are grown for seed yield, the optimal sowing rate is 7-8 kg / ha (at the rate of 1.3-1.5 million germinated seeds). In the conditions of the Republic of Udmurt in 2017, in the experimental field of the Udmurt Agricultural Research Institute, when planted in norms 2.0, 2.5, 3.0, 3.5 and 4.0 million pieces of mustard variety "Raduga" per hectare (12-24 kg /), due to lack of heat, the vegetation period of the plant increased significantly and the period from germination to full

flowering was 48 days. The highest yield of green mass was obtained from 3.0, 3.5 and 4.0 million seeds per hectare (11.14; 11.60 t / ha) [5].

It is necessary to determine the rate of sowing depending on the degree of moisture content of the soil in the area planted with mustard and the amount of weeds. In well-drained areas, the sowing rate of mustard is 2.5-3.0 million seeds per hectare, and in relatively low-moisture areas - 1.5-2.0 million seeds per hectare [6, 7].

In the researches which conducted in Kalmakstan, the yield of Carept mustard was 20.0 c / ha when sown with 2.5 million germinated seeds per hectare, and when sown with 3.0 million germinated seeds per hectare decreased by 2.0 c / ha compared to the planted option 2.5 million seeds per hectare. In the variant sown with 2.0 million seeds per hectare, the yield was 4.0 c / ha less than in the variant sown with 2.5 million seeds per hectare [1, 3].

Materials and methods

Our research was conducted in 2020-2021 in the conditions of typical sierozem soils of Tashkent region, and the effect of sowing norms on field germination of seeds of Carept mustard (Brassica junceae Czern) was studied. In our research, the norms of sowing mustard to 1.0, 1.5, 2.0 million pieces / hectare were tested.

The experiment included 9 options, each plot consisted on 60 m^2 area, of which 30 m^2 were taken into account. Four replications were conducted and the total area of the experiment was 0.216 hectares.

The research was conducted in the field and in the laboratory, in which the placement of field experiments, calculations and observations were carried out on the basis of "Methods of field experiments", plant analysis "Methods of state variety testing of agricultural crops" [2, 4, 8].

In the experiment, the varieties of Carept mustard (Brassica junceae Czern) "Nika", "Gorlinka" and "Yunona" in the first ten days of March at the rate of 1.0, 1.5, 2.0 million seeds per hectare planted at depth 2-3 cm.

Result and discussion

In our research, it was found that the seeds of spring mustard varieties "Nika", "Gorlinka" and "Yunona" affected the germination rates in the field.

It should be noted that in our study, mustard varieties were planted on March 4, the germination rate of seedlings began 6-7 days after planting, and observations were continued every 2 days.

The highest germination rates of mustard seeds in the field were observed in all varieties with 1.5 million seeds per hectare. In the first term of observation, germinable seeds were found to be 13.6% in Nika variety, 13.5% in Gorlinka and 13.8% in Yunona. It was found that the germination of mustard seeds in the variants with 1.0 million seeds per hectare was 13.0-13.2%, while in the variants with 2.0 million seeds per hectare was 13.3-13.6% (Table 1).

In the third period of observation (March 15), the above figures, Where sown with 1.0 million seeds per hectare were 51.9% for Nika, 50.7% for Gorlinka and 52.3% of Yunona seedlings sprouted. It was found that the germination of mustard seeds in the variants with 1.5 million seeds per hectare was 51.6-53.4%, while in the variants with 2.0 million seeds per hectare sprouted 51.0-52.8%.

According to the results of the fourth period of observations (March 17), in the variant 1.0 million seeds per hectare, the number of mustard seeds per hectare was 71.3% in the Nika variety, 73.5% in the Gorlinka variety and 74.6% of Nika variety seedlings sprouted. In the variants sown with 1.5 million seeds per hectare, the germination of mustard seeds was 72.4-75.3%, while in the variants with 2.0 million seeds per hectare, 71.7-75.0% of seedlings sprouted.

Table 1. Influence of sowing norms on field germination of seeds of Carept mustard (Brassica junceae Czern), % (2021)

№	Mustrad cultivars	Sowing norms, mln.pcs/ha	Observation dates				
			11.03.	13.03.	15.03.	17.03.	19.03.
1	Nika	1,0	13,2	27,1	51,9	71,3	82,4
2		1,5	13,9	28,0	52,8	72,4	83,8
3		2,0	13,6	28,4	52,3	71,7	83,2
4	Gorlinka	1,0	13,0	26,6	50,7	73,5	84,0
5		1,5	13,5	27,4	51,6	74,6	85,1
6		2,0	13,3	27,1	51,0	74,1	84,8
7	Yunona	1,0	13,1	29,3	52,3	74,6	85,7
8		1,5	13,8	30,1	53,4	75,3	86,5
9		2,0	13,4	29,6	52,8	75,0	86,1

According to the results of the last period of observations (March 19), 1.0 million seeds per hectare of mustard seeds were sown in Nika 82.4%, in Gorlinka 84.0%, in Yunona 85.7% of seedlings sprouted. It was found that the germination of mustard seeds in the variants with 1.5 million seeds per hectare was 83.8-86.5%, while in the variants with 2.0 million seeds per hectare germinated 83.2-86.1%.

Conclusion

It was found that the seeds of Carept mustard (Brassica junceae Czern) of Nika, Gorlinka and Yunona varieties influenced sowing norms in field conditions. Germinability of mustard seeds in field conditions was 82.5-83.8% in Nika, 84.0-85.1% in Gorlinka and 85.6-86.5% in Yunona. Relatively high rates were observed in the variants sown with 1.5 million seeds per hectare, which is 0.3-1.3% higher than the variants sown with 1.0 and 2.0 million seeds per hectare.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
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SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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MORPHOFUNCTIONAL CHANGES OF THE THYMUS UNDER THE INFLUENCE OF VARIOUS ENVIRONMENTAL FACTORS

Abstract: *The study of the literature has shown that the morphological status of the thymus has been studied superficially in many works. The cellular composition of the thymus parts under the influence of physical or chemical environmental factors in the age aspect has not been studied enough. All this requires a more detailed study of the morphological changes occurring in this organ under the influence of various factors.*

Key words: *thymus, environment, morphology, external factors.*

Language: *English*

Citation: Asadova, N.Kh., & Teshaev, Sh.J. (2021). Morphofunctional changes of the thymus under the influence of various environmental factors. *ISJ Theoretical & Applied Science, 09 (101),* 747-750.

Soi: http://s-o-i.org/1.1/TAS-09-101-105 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.105

Scopus ASCC: *2700.*

Introduction

The purpose of the study: to study the safety problems of various factors on the thymus.

Materials and methods.

Subsequently, in the first decade of the XXI century, experimental studies were conducted that demonstrated the participation of the thymus in balancing the activity of the hypothalamic-pituitary-adrenal axis by limiting the stress-damaging effect when it is excessively activated [8]. Moreover, at the turn of the XX and XXI centuries, thanks to the success of histochemistry, it was discovered that the same signaling molecules are found in the cells of the endocrine, nervous and immune systems, and these systems "talk" to each other in the same language – the language of signaling molecules [10]. All these data point to the great importance of the thymus for living organisms. However, the in vivo study of this organ in humans is a difficult task, since, on the one hand, it can quickly change its size, on the other-there are no available methods for studying its functional activity. The latter was the reason for conducting the present study.

The thymus in humans, starting to function from the 4th week of embryogenesis, reaches a significant size by the time of birth (allowing it to be visualized using ultrasound[2].

Functional morphology of the thymus.

Subcapsular zone, which occupies area of ¼ of the crust beneath the basal membrane of the lobules presented a continuous layer of epithelial cells lying on the basal membrane under the capsule and around blood vessels cortical areas. Early thymocytes, fibroblasts, and a few macrophages are located in the cells of the epithelial network of this zone. It is assumed that the purpose of the subcapsular zone is to create a microenvironment for T-lymphocyte precursors that migrate to the thymus from the bone marrow for their proliferation and the very initial stages of maturation.

The inner cortical zone consists of a broad-leaved network of epithelial cells, in the "reservoirs" of which further maturation of T-lymphocytes occurs. Epithelial cells of this zone express class I and II antigens of the HLA system, here the thymocyte T-cell receptor is formed, and mature T-lymphocytes of this zone carry homing receptors for migration to T-dependent zones of peripheral lymphoid organs. The population of lymphocytes in this zone is represented by 60-80% of all thymus lymphocytes, most of which are not mature, but there are also mature T-lymphocytes. It is assumed that the functional purpose of this zone is to further differentiate the T-lymphocytes entering it.

The medullary zone is the medullary substance of the lobules. This zone is represented by a dense network of large epithelial cells, the processes of which are connected to each other by desmoconnected contacts. In the medullary zone there is a large number of interdigitating (dendritic) cells, and closer to the cortical-medullary border, macrophages rich in lysosomes and phagolysosomes accumulate. In the same zone are myoid cells that have acetylcholine receptors, as well as "sphinx cells" with signs of both epithelial and myoid cells. The thymic bodies (Gassal's bodies) are located in the same zone. Morphologically mature T-lymphocytes are brought here for further antigen-dependent maturation. The lymphocytes of the brain zone have a mature phenotype and are functionally active. These are immunocompetent cells that enter the bloodstream. The function of the medullary zone is to provide antigen-dependent maturation of T-lymphocytes due to the action of thymic hormones of epithelial cells, direct contact with interdigitating cells, and the influence of interleukins [3].

The intra-lobular perivascular spaces (VPP) are the zones surrounding all the intra-lobular vessels of the thymus. The boundaries of the zone are, on the one hand, the basal membrane of the vessels, on the other-the basal membrane of the epithelial cells of the parenchyma of the thymus. In function intralobular perivascular spaces include transport of t-lymphocytes and the establishment of the structural basis gematologicheskogo barrier. In general, the cellular composition of the VPP is close to the peripheral lymphoid tissue, and changes in them during the development of pathology are similar to those in the lymph nodes [8].

More than 100 years ago, it was found that the thymus as a large organ is normally detected only in young, but not in sexually mature individuals. The same has been identified and the person in the conduct of postmortem and forensic studies. After the end of puberty, the thymus in adolescents begins to undergo age-related involution. Nevertheless, one important feature of the thymus in adults should be noted: despite the ongoing involutional processes, the function of this organ continues to persist until death [1]. The immune system originated in the early stages of evolution and its activity is based on the recognition of foreign antigens, their destruction and removal, which is extremely necessary for the survival of the organism [1].

The main site for the development of specific immunological reactions is the lymphoid tissue, which contains numerous cell populations involved in ensuring the genetic constancy of the internal environment of the body [7].

The thymus as the primary organ of the immune system largely determines not only the state of the peripheral organs of immunogenesis, but also the severity of the protective reactions of the entire body [4]. The regulatory and censor role of the thymus in immunogenesis is related to the state of its reticuloepithelium and lymphocytes. Thymic cells (Gassal cells) produce the humoral factor of the thymus, which determines the immune competence of the lymphoid tissue [31].

The central immune organ, the state of which largely depends on the severity of the protective reactions of the entire body, is the thymus. It was revealed that the bioamine-containing structures of the thymus regulate the processes of immunogenesis directly. The thymus is the central organ of mammalian immunogenesis, where T-lymphocytes form and multiply, and the red bone marrow, where B-lymphocytes form and multiply. The lymph nodes, spleen, tonsils, and lymphoid follicles of the intestine are peripheral lymphoid organs [2,4].

The thymus in the structure of the immune system ensures the maturation and differentiation of T-lymphocytes, including in peripheral immune organs, and stimulates the integration of various populations of T-lymphocytes and macrophages for the implementation of immune responses [2,9].

In the thymus, as in the body as a whole, all cells are in close contact with each other interaction with each other. Intercellular information interactions are the main integrative and coordinating systems of the body. The communication connection of the cell is carried out with the help of signaling molecules. These include ions, gases, peptides, peptide hormones, metabolites, and steroids. The receptors that are located either on the plasma membrane or inside the cell are the receivers and transmitters of the signaling molecules. The thymus is one of those organs in which molecular and cellular neuroimmunoendocrine interactions are most clearly manifested, which play a key role in providing both local and general biological effects [3].

The immune system is a unique defense mechanism that provides homeostasis, and in contact with any antigen, it not only reacts in the form of a specific immune response, but is also able to involve the nervous and endocrine systems in this process through humoral factors [8].The leading role in such interactions belongs to the thymus, which contains

numerous cell types that support the processes of immunogenesis. Morphological changes in the thymus that occur in response to stress, to various antigens, are adaptive and are accompanied by changes in the cytoarchitectonics and microenvironment of cells, which, apparently, is the cause of the development of immunodeficiency in these conditions[5].

The opinion that the thymus is completely atrophied in adults is erroneous. The complete termination of the function of this organ for the macroorganism means its death. In such cases, death occurs from infectious, oncological or autoimmune diseases or from the inability to resist stress.

Recurrent thymic hyperplasia,an increase in the organ under study after chemotherapy compared to the baseline level, was detected in 20 patients aged 18-53 years (an average of 33 years). These findings suggest that the adult thymus retains the ability to regenerate after chemotherapy, especially in young adults.Such hyperplasia may contribute to the renewal of thymopoiesis and replenishment of the peripheral T-cell pool after chemotherapy in adults [4].

A study conducted using imunofan showed a decrease in the degree of destruction of lymphocytes, since it has the ability to protect their DNA from damage caused by cyclophosphane[7], thereby reducing the degree of involutional changes in the thymus, and also accelerates the restoration of the thymus structure after acute involution induced by cyclophosphane [10].

Under chronic stress, there is a decrease in the number of T-lymphocyte precursors in the red bone marrow and a decrease in the level of their chemoattractants in the thymus, which contributed to organ hypoplasia [6].

In the work of V. H. Havinson (2010), a study of the immune system organs of rats exposed to gamma radiation was carried out. In the irradiated animals, the internal organs were moderately anemic, and the mesenteric lymph nodes were dark in color. The thymus and spleen were reduced in size [2].

The use of ethanol-containing beverages by women, especially during pregnancy, was studied, which was a factor that most unfavorably integrates the causes that led to immunodeficiency conditions, in particular, the thymus in newborns. Studies show that immunodeficiency can be attributed to the persistent manifestations of fetal alcohol syndrome, which often occurs in children due to prenatal exposure to ethanol [3, 4].

The growth of a malignant tumor may depend on both cellular and humoral factors of the thymus [1].

There is a hypothesis that during tumor growth, the output of immature thymocytes may increase, which migrates to the tumor, where they support the growth of transformed cells - the so-called lymph dependent growth phase. According to the literature, it is known that the tumor-stimulating effect of immature T-lymphocytes can consist both in increasing the growth of the tumor cells themselves and blood vessels. The growth of neoplasms depends on the thymus not only as an organ that produces lymphocytes, but also as a gland that synthesizes hormones [1].

It is known that the organs of the immune system and, first of all, its central organ, the thymus, responsible for the formation of immunological reactions, play a crucial role in maintaining the homeostasis of the body, in ensuring the stability of its antigenic structures, in constant supervision of the genetic constancy of the body's somatic cells [9].

A little-studied function of the thymus is its participation in the realization of stress. Under stress, the thymus and lymph nodes are reduced. If the stressor is not strong enough, and the body's resistance is high, then these changes may not be detected. Hormones and polypeptides of the thymus are functional antagonists of the stress system. Under the influence of thymus polypeptides, the body's resistance to various stressful influences increases, and the thymus itself is not only the central organ of the immune system, but also the organ of the stress-limiting system [7]. The thymus response to stress, including infectious stress, includes its involution, which is pronounced in children, especially in infants and young children. When conducting ultrasound diagnostics of the thymus in 60 children of the first year of life in the dynamics of the acute infectious process, it was revealed that the thymus value decreases on the 2nd – 3rd day of the disease (ARI, acute pyelonephritis, acute intestinal infections), on the 10th – 14th day from the onset of the disease and after 1.5-2 months [5].

Abscesses and other inflammatory changes in the thymus are extremely rare, since the thymus is sufficiently reliably isolated from participation in daily activities and is involved in inflammation only when it passes to the systemic level or when the damaging agents directly affect the organ itself [6].

Atrophy of the thymus parenchyma located around small vessels at the age of 25-40 years reaches 5% per year [4,6].

The regulatory and censor role of the thymus in immunogenesis is related to the state of its reticuloepithelium and lymphocytes. Thymic cells (Gassal cells) produce the humoral factor of the thymus, which determines the immune competence of the lymphoid tissue [6].

The central organ of the human and animal immune system, the thymus (thymus gland), is an evolutionary acquisition of vertebrates. Its appearance in representatives of this group of living organisms was a key event in the evolution of the immune system [7]. The analysis of the literature shows that in many works the morphological status of the thymus is superficially studied. There is no clear understanding of the study of the cellular composition of parts of the

thymus under the influence of physical or chemical environmental factors in the age aspect.

All this requires a deeper study of the morphological changes that occur in this organ under the influence of various factors.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 9.035	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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INFLUENCE OF SEEDLING THICKNESS AND FERTILIZER RATE ON COTTON YIELD

Abstract: *In agriculture, it is important to increase labor productivity, improve technological processes, and reduce costs as much as possible, save available resources.*

The purpose of the study is to scientifically substantiate the impact of seedling thickness and fertilization standards on cotton yield in the cultivation of cotton by sowing seeds under the film in light gray soils of Namangan region. The experiment consists of 6 options 3 turns, seedling thickness 138, 110, 90 thousand bushes / ha, application of fertilizers in the 1st norm pure nitrogen 210 kg per hectare, phosphorus 125 kg, potassium 105 kg 2nd norm nitrogen 250 kg per hectare, phosphorus 150 kg, and 105 kg of potassium were studied.

In this method, the growth and development of plants is accelerated in the cultivation of cotton. The yield of cotton is also the highest (39.7 ts / ha) in the variant used in the norm N-250, F-150, K-125 kg / ha, leaving the seedlings at 110 thousand bushes / ha. K-105 kg / ha was 1.6-2.3 ts / ha when used normally, N-250, F-150, K-125 kg / ha was 2.7-3.8 ts / ha when used normally. When the thickness of seedlings is 138 thousand bushes / ha, the yield of cotton decreases slightly when applied in the norm of N-200, F-125, K-105 kg / ha 33.6; N-250, F-150, K-125 at the normal application rate was 36.3 ts / ha.

Key words: *Seed, sowing, cotton, film, cotton, plant, germination, seedling, mineral fertilizer, growth, development, norm, yield, yield element, yield king, cultivation, option.*

Language: *English*

Citation: Tursunov, A. A. (2021). Influence of seedling thickness and fertilizer rate on cotton yield. *ISJ Theoretical & Applied Science, 09 (101),* 751-754.

Soi: http://s-o-i.org/1.1/TAS-09-101-106 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.106

Scopus ASCC: *1100.*

Introduction

In agriculture, it is important to increase labor productivity, improve technological processes, and reduce costs as much as possible, save available resources.

Through the development, improvement and widespread introduction of agro-technologies that ensure high yields of cotton, it will be possible to obtain high-quality and high-yield cotton.

In Uzbekistan, a number of researchers have conducted research on the technology of growing cotton by sowing seeds under the film. In particular, in experiments conducted by S.Rahmonkulov and F.Hasanova (1997), seeds sown under film germinated in 6 days (14.5%) and in the control variant (in the open field) in 13 days 6.6%, i.e. 58.4% film; there were a lot of seedlings under it. The average daily temperature under the film was 1.7-7.7 C° more, and the total soil temperature before the cotton buds and full flowering phase was 168.3 C° more than when the seeds were sown in the normal way, resulting in an increase in yield by 6 quintals per hectare [10].

R. Kurbanov (2001), relatively good results in terms of soil properties were observed in the cotton growing area by sowing the seeds under the film in a wide range of film-coated variants on the topsoil. It has been concluded that when the surface part of the soil is covered with a film, the water utilization coefficient of the crop increases significantly as a result of a significant decrease in moisture evaporation from the soil surface [9].

In the research of S.Bahramov, Sh.Rakhmonov (2002) the efficiency of mineral fertilizers used in the method of sowing seeds under the film is greatly increased, because the temperature of the film-

covered buds is high for 70-80 days, the humidity is maintained at an acceptable level; the conversion of nutrients in it into a plant-like form is accelerated, the wastage of waste products by evaporation into the atmosphere is greatly reduced, and the fast-growing cotton plant quickly absorbs nutrients from the soil [2].

In the researches of I.Abdurahimov, Sh.Akmurzaev, E.Juraev (2006), in cotton growing by sowing the seeds under the film, it is emphasized that the time of sowing the seeds depends. Researchers point out that sowing seeds under the film is more effective when applied early. In the experiment, it was concluded that in the first half of March, when the seeds were sown under the film, the cotton crop ripened a month earlier, 20 days earlier when sown in the second half, and 10 days earlier when sown in the first ten days of April [1].

From the results of the above research, it can be seen that the yield of cotton has increased through the technology of growing cotton by sowing the seeds under the film.

The main findings and results

The research work was carried out under the conditions of light gray soils of the Namangan Scientific Experimental Station PSUEAITI, based on the established methods [5,6] and the obtained data on productivity were processed mathematically [7], the experiment consisted of 6 variants and 3 returns.

Seedling thickness in the experimental system is 138, 110 and 90 thousand bushes per hectare. Fertilizers were applied in two different rates (pure nitrogen 210 kg per hectare of norm 1, phosphorus 125 kg, potassium 105 kg. Pure nitrogen 250 kg, phosphorus 150 kg and potassium 125 kg per hectare 2 norm).

In the application of mineral fertilizers under the annual norm plowing 60% of phosphorus fertilizers, 50% of potassium fertilizers. Along with planting was fed 20% nitrogen fertilizer and 20% phosphorus fertilizer.

Feeding of plants during the growing season is divided into three parts, i.e. 1 feeding 3–4 leaves with 20% nitrogen fertilizer in the extraction phase. 2nd feeding with 30% nitrogen and 50% potassium in the milking phase. In the flowering phase of the 3rd feeding was fed with 30% nitrogen and 20% phosphorus.

Results and discussions

As a result of the study, the sown seeds began to germinate after 10 days, germinating with 15 kundato. 138.2 thousand bushes / ha in variant 1, 109.6 thousand bushes / ha in variant 2, 90.4 thousand bushes / ha in variant 3, 137.8 thousand bushes / ha in variant 4, 111.2 thousand taps in variant 5 close to the number of seedlings in the experimental system after single cotton seedlings / ha, in option 6 was 90.8 thousand tap / gani.

The number of seedlings left at the end of the growing season is 136.7 thousand bushes / ha in option 1, 108.3 thousand bushes / ha in option 2, 89.9 thousand bushes / ha in option 4, 135.6 thousand bushes / ha in option 4, 110.4 thousand bushes / ha in option 5, in option 6, it was 89.2 thousand cannons.

According to the results of the observation conducted on June 1, a significant difference between the options for plant growth began to be observed. In variants 1 and 4, where seedlings were left relatively thick, plant growth was more rapid than in variants, where seedlings were sparse (options 2,3,5,6). In options 1, 4, the plant height was 31.2, 32.9 cm, in options 2, 3, 5, 6 this figure was 27.6-30.7 cm, and the difference was 2.2-3.6 cm. On June 1, growth rates were 31.2 cm in variant 1, which was higher in height, and 27.6 cm, which was observed in variant 3, which was shorter. As of July 1, the growth of variant 4 plants accelerated to 90.0 cm, while the height of variant 3 plants was relatively low at 80.4 cm. As of August 1, the tallest variant was 92.5 cm, and the third variant was 83.6 cm. As of June 1, the number of Chinbarg was 8.9, 9.2 and 7.8-8.6, respectively. (Options 4, 6) The plants grew taller, the number of yielding horns was higher than the number of buds and buds.

The difference in plant height was 0.8-4.3 cm, the difference in the number of harvested horns was 0.5-0.7, and the difference in the number of pods was 0.4-0.6.

The number of combs formed in the plant was higher when the seedlings were left at 110,000 bushes / ha, and the difference compared to other options was 0.1-0.03. Such regularity was also noted in subsequent observations. On July 1, the height of the plants was 85.1 and 90 cm, respectively, in seedlings 1 and 4, where the seedlings were left thick. In other variants, the figure was 80.4–83.3 cm, with a difference of 4.9–6.7 cm. The number of fruit-forming horns formed in the plant was also slightly higher in the variants where the seedlings were relatively thick, at 11.6 and 12.4, respectively. The number of stems and flowers, in contrast, was higher in the relatively low number of seedlings than in the large number of seedlings left.

On August 1, mineral fertilizers also showed their effects. N-200, F-125, K-105 kg / ha were used normally and the number of seedlings was left at 138 thousand bushes / ha.

In variant 1, the seedlings grew 2.8–4.6 cm taller than in the variants where 110 and 85 thousand bushes were left, and the number of harvested horns was 0.5–0.7 more.

The number of nodules and stalks, on the other hand, was higher in the variants where seedlings were rarely left. Increasing the rate of mineral fertilizers (N-250, F-150, K-125 kg / ha) further accelerated the growth and development of plants. N-200, F-125, K-

105 kg / ha in these variants compared to options 1, 3 used in the norm. When the seedling thickness was 138,000 bushes / ha, the cotton yield was 33.6 ts / ha in variant 1 and 36.3 ts / gan in variant 4.

Table 1. Data on cotton yield

НСР $_{05}$ ц/га =1.19 НСР $_{05}$ % =3.26

B	Productivity in terms of returns, ts / ha			Productivity in terms of returns, ts / ha	Additional yield, ts / ha		According to the cotton harvest, ts / ha			
					Due to seedling thickness, ts / ha	NPK at the expense of the norm, ts / ha	1-term 15.09		2-term 29.09	
	I	II	III				ц/га	%	ц/га	%
1	34.2	33.9	32.7	33.6	-	-	30.8	91.6	2.8	8.4
2	37.0	36.2	34.6	35.9	+2.3	-	32.6	90.8	3.3	9.2
3	36.1	35.3	34.2	35.2	+1.6	-	32.3	91.8	2.9	8.2
4	37.8	36.1	35.0	36.3	-	+2.7	33.8	93.1	2.5	6.9
5	40.2	41.1	37.8	39.7	+3.4	+3.8	36.1	90.9	3.6	9.1
6	39.5	37.6	36.9	38.0	+1.7	+2.8	35.2	92.6	2.8	7.4

When the seedling thickness was 138,000 bushes / ha, the cotton yield was 33.6 ts / ha in Option 1 and 36.3 ts / ha in Option 4. In the variants with 110,000 seedlings per hectare, the cotton yield was 35.9 ts / ha and 39.7 ts / ha. Seedling thickness was 35.2 Sts and 38.0 ts / ha in 90,000 abandoned variants. The highest yields were obtained in the variants with 110,000 seedlings per hectare, and the application of fertilizers in the amount of nitrogen 200, phosphorus -125, potassium-105 kg / ha was 35.9 ts / gani.

When the fertilizer rate was increased to 250 kg of nitrogen, 150 kg of phosphorus and 125 kg of potassium per hectare, the yield was 39.7 ts / ha. When fertilizers N-200, F-125, K-105 kg / ha are applied in the norm, 110,000 bushes / ha of seedlings are left with additional yield compared to 138,000 bushels / ha. formed. When fertilizers were applied at the rate of N-250, F-150, K-125 kg / ha and the seedling thickness was 110 thousand bushes / ha, the additional yield was 3.4, 1.3 thousand bushels / ha was 1.3 ts / ha.

Increasing the rate of mineral fertilizers at different seedling thicknesses had a positive effect on cotton yield. In the variants used in the norms of fertilizers N-250, F-150, K-125 kg / ha, compared to the variants N-200, F-125, K-105 kg / ha, the cotton yield is 2.8 ts / ha, when the seedling thickness is 138 thousand bushes / ha, Increased by 3.8 at 110,000 bushels and by 2.8 ts / ha at 85,000 bushels. Thus, the optimum seedling thickness in the cultivation of cotton by sowing the seeds under the film was 110 thousand bushes / ha. At the same time, the cotton yield was the highest when fertilizers were applied in the amount of N-250, F-150, K-125 kg / ha.

Conclusion

As a result of the research, we came to the following conclusion: In areas where the technology of sowing seeds under the film is applied, the growth and development of plants is accelerated and ensures a tomorrow, high and quality harvest of cotton.

The analysis showed that. The highest results were observed when seedlings were left at 110,000 bushes / ha, and mineral fertilizers N-250, F-150, K-125 kg / ha were applied in moderation. In this variant, the height of the plants was significantly higher than in the other variants, and the number of fruiting branches and yielding elements formed in the plant was large. Cotton yield is also the highest (39.7 ts / ha) in the variant used in the norm of N-250, F-150, K-125 kg / ha, leaving the seedlings at 110 thousand bushes / ha. K-105 kg / ha increased by 1.6-2.3 ts / ha, N-250, F-150, K-125 kg / ha increased by 2.7-3.8 ts / ha.

The results of the analysis show that in the conditions of light gray soils of Namangan region, when using the technology of sowing seeds under the film; high yields of cotton are achieved as a result of application of seedling thickness of 110 thousand bushes / ha, mineral fertilizers in pure form of nitrogen 250 kg / ha, phosphorus 150 kg, and potassium 125 kg / ha.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
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SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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EFFECT OF SOWING RATE ON THE QUALITY OF SEEDS OF WINTER WHEAT

Abstract: *In all the options, relatively high indicators for the germination of seeds and germination energy were observed under the norm of sowing 2 million sowing seeds, in these versions, the germination and energy of the grooves exceeded 0.4-1.1 and 0.5-3.1% compared to other options.*

Under the use of high doses of mineral fertilizers, the yield of seeds was in the grade of Chillaki 78.1 c / ha, in a Kroshka 77.9, a method of research / hectares, in the grade of solid wheat Kakhrabo 76.9 c / ha.

Due to the sowing of high-quality seeds, the grain harvest was in the Chillaki cultivar of winter wheat 18.1-46.8 c / ha, in a sort of Kroshka 18.0-48.7 c / ha, in Kakhrabo grade 2.0-39.9 c / ha.

Key words: *seeds, seed quality, sowing quality, germination, germination energy, growth force, alignment, seed faction.*

Language: *English*

Citation: Azizov, B. M., Jumashev, M. M., Yakubjonova, N. A., & Khayrullayev, S.Sh. (2021). Effect of sowing rate on the quality of seeds of winter wheat. *ISJ Theoretical & Applied Science, 09 (101),* 755-760.

Soi: http://s-o-i.org/1.1/TAS-09-101-107 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.107

Scopus ASCC: *1100.*

Introduction

UDC 633.111

Scientific research on the study of growth and development, potential crop opportunities, improving and improving seed quality grain of winter wheat conducted at leading scientific centers of foreign countries as an agricultural department of the United States of America (USA), China Academy of Agrocultural Sciences (China), Dept. Of Plant Sciences Kings College London (England), Krasnodar Research Institute of Agriculture named after P.P.Lulukyanenko.

The basic indicators of the quality of winter wheat seeds for different years on irrigated lands of the republic and abroad was studied by V.V.Gritsenko [6], K.E.Ovcharov [7], G.K.Kurbonov [8], B.M.Azizov [1, 2, 3].The positive effect of mineral fertilizers on the technological quality of grain was studied by R.I.Siddikov, N.Khalilov and others [9]. Communication with this study of sowing and yields of seeds are of great importance.

For intensive growth and development, for the formation of fruit elements of varieties with winter

soft wheat Chillaki, it is advisable to suite high-quality seeds with a fraction of 3.0 mm, for solid wheat varieties Kakhrabo - seed fraction 2,5 mm. It has been established that the quality of seeds has a positive effect on the grain yield of winter wheat. There are relatively high grain yields of winter wheat during seeds with a fraction of 2.5-3.0 mm. The greatest grain yield of 70.3 c / ha was marked at a Kroshka variety when sowing high-quality seeds of 3.0 mm, harvesting due to the quality of seeds amounted to 18.1-48.7 c / ha.

According to data of B.M.Azizov, B.A.Isroilov, M.B.Nazarova, Z.Askarova, 195-213 pieces of sprout per 1m^2 area were sown when 1.7 mm seeds were sown in May, 417 seeds were sown when large 3.0 mm seeds were sown, 429 pieces sprouted. Due to the quality of seeds, winter wheat yielded 18.1-46.8 c/ha in Chillaki, 18.0-48.7 c/ha in Kroshka and 2.0-39.9 c/ha in Kakhrabo. Due to the quality of the seeds, the amount of gluten in the grain increased by 1.0-2.3% [4].

The growth and development of autumn wheat depends to some extent on the quality of the seeds. Planting quality seeds ensures that the seeds germinate and grow quickly in a short period of time [10].

Methods and materials

Experiments are given soil-climatic conditions for the place of experience. Characteristics of meadow-sierozem soils of training and industrial economy, the villages of Kuygan-Yar, Andijan district, Andijan region, and typically sierozem soils of the Tashkent Economic and Industrial Economy, the Kibray district of the Tashkent region.

The climatic conditions of the Andijan and Tashkent region. The soil of experienced sections with meadow sierozem and a typical sierozem of a long-standing irrigation, the mechanical composition is medium lung. Locking groundwater is 2-3 meters and below 5 meters, not saline.

The content of humus in arable and subfall layer is 0.9-1.2%. By the provision of soil with nutrients, these soils relate to the mid-fertile soils soil acidity Neutral pH at 6.5-7.0.

The average annual air temperature is 14-160^{0}C. Such climatic conditions in the area are considered optimal for the cultivation of winter wheat. Comparatively low temperatures are observed in winter periods, in January, the average monthly air temperature -3, -40^{0}C ha, individual days can be reduced to -160, -200^{0}C. And relatively high air temperatures are observed in the summer periods of the year. The average daily air temperatures 25-300^{0}C, separate days reach up to 40-420^{0}C. Duration of warm days, high indicators of the amount of effective temperatures in the area show about large potential capabilities to obtain stable high crop yields.

In the experiment, options were sampled in four repetitions. The area of each version of 100 m^2, of which, accounting is 50 m^2, the protective area is 50 m^2. In the experiment, the placement of options and repetitions, the conduct of phenological observations and accounting was carried out according to the method of B.A. Dospekhov (1985) "Methodology of Field Experience".

The content of humus in the soil is opthels according to the method of I.V.Tyurin, the content of the total nitrogen and phosphorus according to the method of Keldal, K.E.GINSburg, G.E.Sheglova, E.V.Vilfius.

The content of nitrates in the soil is determined by the Method of Granval-Lyuja, moving forms of phosphorus on B.I. Machigina, potassium content according to the method of fiery colorimeter. In the experiment, the agricultural properties of the soil were determined by the method of G.I.Pavlova, N.I.Savinova, S.N.Rizhova.

The leaf area of a single plant and the total leaf area of winter wheat is determined by the method of Hispiece Academician A.A.Nichiparovich.

In the experiment, the glassy grain is determined according to SST 10987-76 at the peel of special DZ-2 devices. The content of protein in the grain is determined by Kletel. Content and quality of gluten with special Idk-1, Pack 3A.

Fenological observations were conducted in the first days of the month. In early March, April, May and June, in the accounting area of each defense in certain plants, 50 plants with each variant. Accounting was conducted in the accounting area in each variant. Accounting is carried out in each options. Begin at the beginning of a certain phase of development and is carried out through every 2-3 days, it continues until a plant is in a 50%.

Results and discussion

Biological basis of improving the quality of seeds are described on the concept of quality of seeds, the main indicators of seed quality: the purity of seeds, the value viability, suitability, increase strength, vigor, uniformity, the basic requirements of standard quality seeds, regularities of the quality of seeds, the impact of farming practices on the quality of seeds, the impact of plant density and area of nutrition on the quality of seeds, the impact of the norms of mineral fertilizers on the quality of seeds.

Table 1. Influence of seeding rates on quality of winter wheat seeds

№	Varieties	Norm planting, mln.ha	Weight of 1000 pieces grain/gr	Seed cleanless %	The energy of germination, %	Germination %	The strength of growth, g
1	Chillaki	2	44.8	99.0	96.5	96.5	5.7
2		4	42.6	99.2	96.5	96.5	5.8
3		6	43.5	99.2	84.0	95.0	6.1
1	Kroshka	2	41.9	99.2	98.0	98.0	7.0
2		4	40.9	99.2	97.5	97.5	5.8
3		6	40.4	99.1	97.0	97.0	6.9
1	Kakhrobo	2	34.5	98.3	97.2	97.4	4.7
2		4	34.7	98.7	97.3	98.0	3.7
3		6	33.7	98.0	98.0	98.0	4.6

The results of these experiments indicate that seeding rates in the different varieties have different effects on seed quality.

In the experiment on seed purity significant difference was observed between the variants. In all the studied variants of seed purity were within the standard requirements.

On seed size, ie, weight of 1,000 seeds relatively high levels were observed in grade Chillaki 44.8 grams, 41.9 grams Kroshka grade at 2 million hectares sowing sowing seeds in grade Kakhraba 34.7 grams of 4 million hectares during sowing sowing seeds.

By germination energy and total germination relatively high rates in grade Chillaki grade and 96.5% Kroshka 97.5-98.0% observed at lower rates sowing 2-4 million. Hectare of sown seeds. In contrary Kakhraba grade high rate of 98% is noted at 6 million hectares of crop sown seeds.

One of the important indicators of the quality of seed is an alignment, i.e. the same dimensions. Seed leveling indicate its conditioned fitness. The largerness, the higher the crop of seeds.

Sowing aligned seeds improves the quality of sowing, provide uniform shoots.

The influence of the quality of seeds on the crop and the quality of wheat grain. Limited on the positive effect of the quality of seeds on the dense of the standing, the process of growth and development of plants, the formation of wheat harvest, on yield and technological quality of grain of winter wheat. Sowing high-quality seeds makes it possible with minimal expenses to obtain stable high and high-quality field crops yields.

The quality of seeds is depends a certain extent on the size and size, i.e. From the size or smallness of the sowing material.

Conducted experienced data showed that the quality of seeds, the field germination positively affects the population of the standing of plants. In the experiment in the crop of small seeds 1.7 mm, the field germination was 32.5% in the class of Chillaki, in a variety of 35.5% Kroshka, in a grade of solid wheat Kakhrabo 38.0%.

Table 2. Effect of seed quality on wheat standing thickness

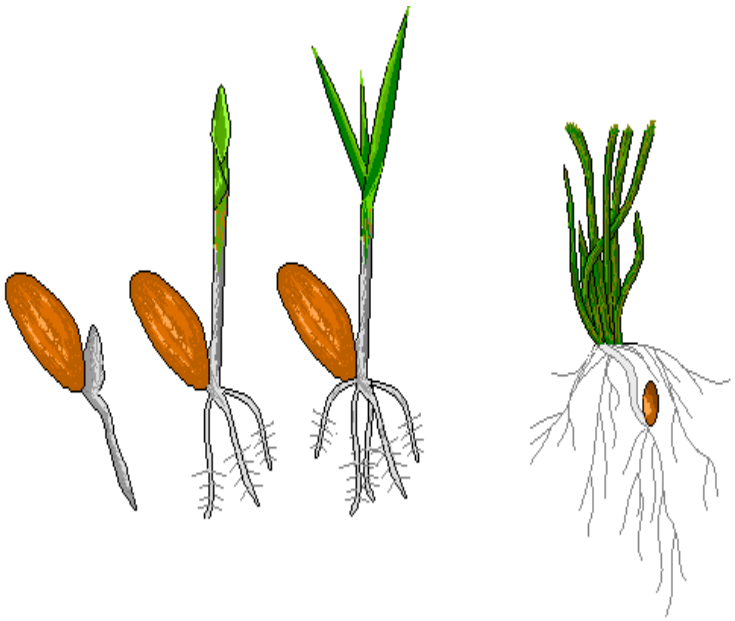
№	Cultivars	Seed faction grade, mm	Norm planting, million pieces	Field germination of seeds, %			The number of plants per 1 m^2		
				2003	2004	Middle	2003	2004	Middle
1	Chillaki	1.7	6	32	33	32.5	192	198	195
2		2.0	6	47	45	46.0	282	270	276
3		2.5	6	58	56	57.0	348	336	342
4		3.0	6	70	71	70.5	420	426	423
5	Kroshka	1.7	6	36	35	35.5	216	210	213
6		2.0	6	48	50	49.0	288	300	294
7		2.5	6	60	62	61.0	360	372	366
8		3.0	6	72	71	71.5	432	426	429
9	Kakhrabo	1.7	6	39	37	38.0	234	222	228
10		2.0	6	50	53	51.5	300	318	309
11		2.5	6	71	73	72.0	426	438	432
12		3.0	6	69	70	69.5	416	420	417

When sowing seeds with a size of 2.0 mm, the field germination of seeds was in the class of Chillaki 46.0%, in the grade of a Kroshka of 49.0%, and in the grade kahrabo 51.5%. When sowing seeds with a size of 2.5 mm, the field germination of seeds was in a class of Chillaki 57.0%, in a variety of a Kroshka 61.0%, and in the Kakhrabo variety 72.0%.

In the experiment, relatively high indicators on the thickness of the standing plants are marked in the grade of Chillaki and Kroshka when sowing larger seeds with a size of 3.0 mm. In the Kahrabo variety when seeds are saturated with an average 2.5 mm magnitude.

When sowing large seeds with a size of 3mm, the number of plants on 1 m2. Massed in a variety of winter wheat Chillaki 423 pieces, in a Kroshka of 429 pieces, in the grade Kahrabo 417 pieces. The highest indicator of 432 plants per 1 m^2 of the area is marked in the sort of Kahrabo when sowing seeds with a size of 2.5 mm.

Thus, it is necessary to use from high-quality seeds with a size of 2.5-3.0 mm to obtain sufficient quantity of standing.



Picture 1. Seed germination of winter wheat

Biological basis The formation of technological qualities of grain of winter wheat is described the influence of various factors on the technological quality of grain, the main requirement for the quality of the grain of winter wheat, the content of protein in the grain, the amount of gluten, the glass of grain, the amount of bread; Standard requirement to technological qualities of wheat grain, dependence of the technological qualities of grain from the hereditary properties of the variety, the dependence of the technological qualities of the grain from climatic conditions, the reasons for the decline in grain quality.

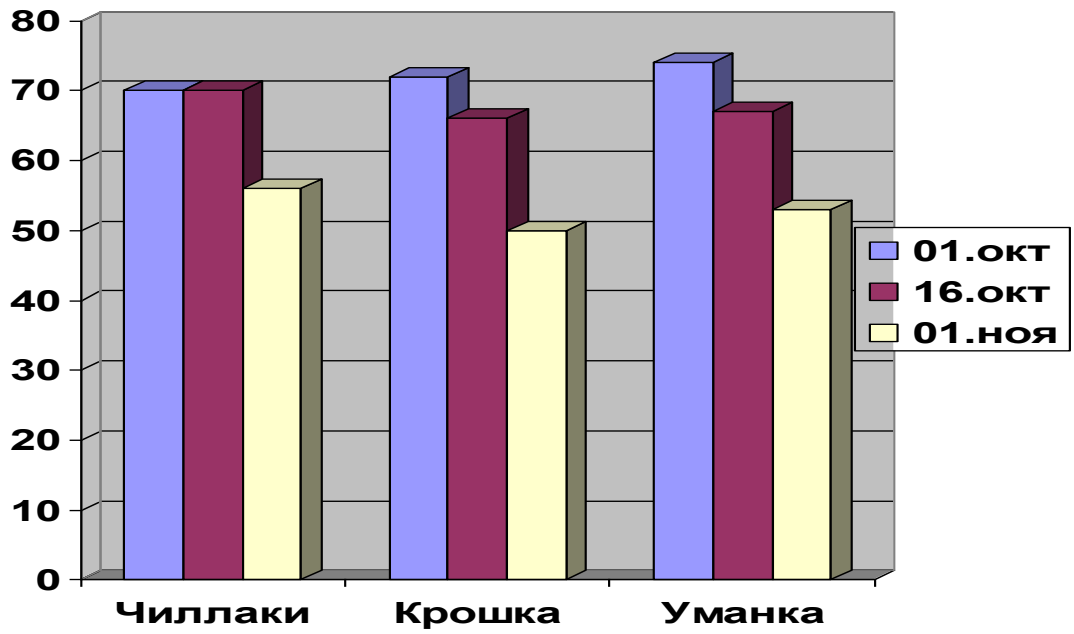
The climatic conditions of the year and the weather are essential affecting the technological properties of winter wheat grain. Grain glassy glance: 60% depends on climate, by 18% of agrotechnical measures, 22% of other factors provided.

The amount of protein and gluten in the grain: 32% of weather conditions, 57% of agrotechnical events, 11% of other factors provided.

Power of flour: 33% of weather conditions, 31% of agrotechnical events, 36% of other not provided factors. The reasons for which lead to a decrease in the technological properties of grain are divided into three groups: first-selection factors; Second-agrotechnical factors; The third reason is climatic conditions.

Selection causes - sowing varieties with low technological qualities. Also sowing seeds with low varietal and sowing qualities.

Agrotechnical factors - disruption of crop rotation, impairment of sowing, nitrogenous starvation of plants, late in harvesting grain harvest. Soil climatic conditions - low soil fertility, low nitrogen content in the soil, rainy climatic conditions, low temperature.



Picture 2. Influence of sowing dates on seed germination of winter wheat, %

Conclusions

• In all studied grades for germination, the energy of germination and alignment of seeds, the highest rates are marked at the rate of seeding 6 million sowing seeds. In these options, the germination of 0.4-1.1%, energy germination by 0.5-3.1% exceeded from other options.

• The norms of mineral fertilizers have a positive effect on the size and mass of 1000 pieces of seeds. In all studied varieties of winter wheat, relatively high seed yields 76.9-78.1 c / ha with high norms of mineral fertilizers.

• The use of high-quality seeds allows an increase in the yield of grain of winter wheat in the class of Chillaki at 18.1-46.8 c / ha, at 18.0-48.7c / ha, Kahrabo on 2.0-39.9 c / ha.

• When cropping, high-quality seeds there is an increase in gluten in grain at 1.0-2.3%.

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SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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VIEWS OF CENTRAL ASIAN JADIDS ON HYDROLOGY AND CLIMATOLOGY

Abstract: *The Jadid movement, which emerged in Central Asia in the late 19th and early 20th centuries, played an important role in the development of many sciences and disciplines. The activities of the Jadid progressives fell into a backward social position; the number of fanatical religious scholars increased, and coincided with the years of Russian colonialism. They tried to achieve scientific, educational, cultural, political, economic development in their works and developments. He has done great work for the enlightenment of the people, bringing in scientific achievements, new and modern scientific teachings, developed in developed Europe and Muslim countries. This article analyzes the ideas and views of the advanced Jadids and hydrology and climatology reflected in their works.*

Key words: *Central Asia, Jadids, hydrology, climatology, geography.*

Language: *English*

Citation: Egamov, B. Y. (2021). Views of Central Asian Jadids on hydrology and climatology. *ISJ Theoretical & Applied Science, 09 (101),* 761-764.

Soi: http://s-o-i.org/1.1/TAS-09-101-108 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.108

Scopus ASCC: *1200.*

Introduction

In the late nineteenth and early twentieth centuries, as in the rest of the world, in Central Asia, unique new views, ideas and opinions became widespread. Attempts to abandon theories developed on the basis of old and mythical teachings are intensifying. Doctrines based on modern factual information and scientific conclusions have evolved. New scientific findings, especially from geography and the natural sciences, have changed perceptions of the world [1, p. 176].

These rapid changes and innovations in the world's natural sciences have not escaped the attention of the Central Asian Jadids. They were well aware that the time had come to change the geographical views built on old and mythical teachings. Jadid developers first of all began to introduce modern geography and education in the education system, enriched with new and modern theory. As a result, geography education was established in Jadid schools. New geographical textbooks have been published [2-3, pp. 144-152]. New and modern knowledge in the fields of hydrology, climatology, geomorphology, regional natural geography has led to the emergence of geography as a more relevant science.

The activities of the Central Asian Jadids, the ideas and views promoted in their works have been studied by many representatives of the field [4-6, p. 400; 7-10, p. 324; 11-12, p. 126; 13-14, p. 238]. However, in numerous studies, the views of the Jadids on geography, natural sciences, hydrology, and climatology have not been studied by researchers. From this point of view, this work shows its relevance.

This article analyzes the views on hydrology and climatology promoted in the geographical works created by the Jadids of Central Asia in the late XIX - early XX centuries.

Materials and methods

The views of the Central Asian Jadids on hydrology and climatology are reflected in their geographical works and popular science articles. At the beginning of the 20th century, the Jadids published more than 5 geographical works, created about 10

maps, and published about 30 popular scientific articles. It is obvious that this topic under study has rich material and information.

The theoretical and methodological foundations of this research were formed by the need for a systematic and sectoral study of the ideas and views promoted in geographical works, maps and articles. The following methods were used to solve the research tasks and prove the hypotheses:

- geographical analysis of works, maps and articles, to determine their content, comparative analysis of research devoted to their study;
- selection, systematization and generalization of information, ideas and views on hydrology and climatology presented in works, maps and articles;
- to analyze, evaluate and make the necessary recommendations on the current scientific and social significance of information, ideas and views on hydrology and climatology, etc.

Results

Information on hydrology and climatology Mahmudkhoja Behbudi's "Brief General Geography" (1906), "Brief Geography of Russia" (1906), "Travel Memories" (1914-1915), Munavvarqori Abdurashidkhonov's "Adib-us Soniy" (1907), "Earth"(1908).

The work "Brief General Geography" is a masterpiece of Mahmudhoja Behbudi and consists of 106 pages. It contains a number of ideas on hydrology and climatology, as well as general issues of geography. Textbook: introduction; The meaning of the word "geography"; "When did geography appear?"; "When the earth turns, the ones above do not fall"; "Evidence and Form of the Water Crust"; "Eclipse statement"; "Lunar Eclipse Statement"; "Air shell"; It is divided into many topics, such as "The flow of the seas" [15-16, pp. 220-222]. There are also topics about the canal, the seat, the seasons, the condition of the water.

Pic.1. A brief description of the armpit and throat in "A Brief General Geography"

Mahmudkhoja Behbudi describes a number of hydrological facts in his book "Travel Memories", which is the product of his journey from Samarkand to Cairo in 1914. Behrudi, who travels by sea from Beirut to Yofah, sees the cities of Saydo, Akko, Haifa, Caesarea, and Arsuf on the shores of the Aegean Sea from afar, recalls the stories told by passengers about the horrific hurricane processes in the sea, and records valuable information about sea hurricane processes. According to the law of lunar eclipses, there will be strong storms at the beginning and end of the month [15-16, p. 104]. Indeed, the Moon and its gravitational force have a certain effect on the nature of the Earth's surface, especially on every point of the world's oceans. There is a rising wave on the ground, which is well visible in the oceans and seas. The gravitational force of the Moon and it is always directed towards the Moon, i.e. the zenith. However, the magnitude of this force varies from place to place. Within a month, the relative positions of the Earth, Moon, and Sun change. In Sisyphea (i.e., when the moon is renewed and during the period of the full moon), the lunar eclipse coincides with the solar eclipse, i.e., coincides with a time. The resulting waves are 40-50% larger than the squares. At this time, strong storms and hurricanes are observed on the ocean and sea shores.

Munavvarqori Abdurashidkhonov in his work "Adibus soniy" also touched upon the date system. Cites a source of accurate knowledge about the days of the year, month, and week. The measurement of time, the system of knowledge relating to calendars, is described in a simple and understandable way. For example, the play says about the calendar: "*There are two different calculations of the year. One is called sanai shamsiya (Year of the Sun). The second is calculated from the appearance of the moon. This is called the lunar year* [17, p. 84].

Munavvarqori Abdurashidkhonov in his works "Adibus soniy" and "Yer yuzi" clearly and correctly approached one of the most pressing problems in the

study of geography today - the world ocean and its division into parts. He spoke of the world's oceans, *saying that the seas are divided into five parts: the Great Pacific (Atlantic), the Atlantic Ocean, the Indian Ocean, the Arctic Ocean (Northern Ice) and the Marine Ocean (Southern Ice*) [17, p. 99]. Indeed, it's called such zoning of the world's oceans is now reflected in the geography education of the developed countries of the world. This indicates that the author is well acquainted with foreign literature on geography and has a high geographical outlook.

The play also provides knowledge and insights about the seasons. It provides phenological information about the seasons, the division of the seasons into months, as well as some natural geographical processes and the vegetation period of plants, atmospheric precipitation.

On a topic called "Air," he writes about air. *The earth is filled with a body called "Air" (a mixture of gases - B.E.). ... The air itself is invisible to our eyes because it is a colorless, clear, soft body. Every human being, every animal and every tree on the earth lives in this air"* [17. pp. 95-96]. This definition of air is fully consistent with today's information and descriptions. It is also noteworthy that the content of the data reflected during the course is aimed at revealing the fact that the air is the basis of existence in nature, as well as the laws of the integrity of natural geographical complexes.

While thinking about clouds in the play, the author also draws attention to the large and small circular motions of water in nature by trying to explain the process of condensation of water vapor in the air. According to him, *"As the sun warms the seas, lakes, and rivers of the earth, the waters in them evaporate and rise. The vapors from these waters raised a few calm (distances) from the ground and then joined together and thickened. . . . We call these gatherings of clouds"* [17, p. 96].

Munavvarqori Abdurashidkhonov's work "Earth" is also rich in generalized views on hydrology and climatology. "Er Yuzi" is one of the first textbooks on geography for grades 3-4 of Jadid schools, first published in 1908. The work was discussed among geography teachers in Turkestan, supplemented and corrected in 1915 on the basis of their suggestions and comments, republished and adopted as a program and textbook for all schools, and even used until 1928 [18, p. 15].

In the subject of this work, entitled "Waters", along with the classification of hydrological objects, one can also see their specific definitions. While writing about the river on this topic; "*A stream is a spring that rises from the mountains, snow and rain, and joins together to form a mighty stream*" [18, p. 99], he said. In fact, the rivers start in the mountains and the source is close to the watershed. Rivers in Uzbekistan are fed mainly by mountain snow, glaciers and rainwater. There are also detailed definitions of the *World Ocean, bay, strait, sea, lake,* and *canal*.

The play provides information about the rivers and lakes on each continent and the seas around it. In particular, there is information on the geographical location, source, position of about 30 rivers, about 20 lakes.

Discussion

If you analyze the works, maps and popular science articles of the Jadids of Central Asia, you can see that the issues of hydrology and climatology are described simply and fluently. Their descriptions of hydrological objects are characterized by the originality of the description of climatic concepts.

New information reflected in the geographical works of the Jadids was able to change the views of the local population on hydrology and climatology. Up to this time, no data based on concepts such as rivers, lakes, seas, bays, straits, clouds, air, lunar eclipses, and specific evidence on the physical properties and properties of water have been provided. These concepts are taught on the basis of myths.

Conclusion

We have recognized their views on hydrology and climatology in the example of the great figures of the Jadid movement and their major works. As far as we know, the study of the written heritage of the Central Asian Jadids is not without its benefits. Because this sacred and inviolable heritage is rich in valuable, factual information and important generalizations about the history of hydrology and climatology.

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SOI: 1.1/TAS DOI: 10.15863/TAS
International Scientific Journal
Theoretical & Applied Science
p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)
Year: 2021 **Issue:** 09 **Volume:** 101
Published: 30.09.2021 http://T-Science.org

QR – Issue QR – Article

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THE DYNAMICS OF THE DEVELOPMENT OF STRENGTH QUALITIES IN VOLLEYBALL CLASSES WITH STUDENTS OF PHYSICAL EDUCATION

Abstract: *the dynamics of the development of strength qualities in volleyball classes is investigated.*
Key words: *dynamics, volleyball, education.*
Language: *English*
Citation: Hakkulov, A. A. (2021). The dynamics of the development of strength qualities in volleyball classes with students of physical education. *ISJ Theoretical & Applied Science, 09 (101),* 765-767.
Soi: http://s-o-i.org/1.1/TAS-09-101-109 ***Doi***: crossref https://dx.doi.org/10.15863/TAS.2021.09.101.109
Scopus ASCC: *3304.*

Introduction

The quality of power does not require proof that it is the bioenergetic source that drives every action. Speed, agility, endurance, flexibility or technical-tactical methods specific to sports groups also need the service of "power". However, in sports practice, it should be noted that in one category of sports, fast strength and strength endurance, in the second - maximum strength and dynamic strength endurance, in the third - explosive - fast strength endurance are of paramount importance. Therefore, the acceleration of training in technical and tactical methods of training strength qualities in accordance with the specifics of each sport (V. N Platonov, 2004: V. M Zaunorsky, 2009; L. V Matveev, 2010; Y. V. Verkhoshinsky , 2014).

In modern volleyball, almost all game modes (attack shots, blocking, passing, ball input) are performed by jumping. According to statistics, during a tournament game, each player can jump 118 or more times only for offensive shots and obstruction (A.V. Sukhanov 2012). If the number of jumps used to perform the remaining methods, including distraction movements, is added to the number of these jumps, it becomes clear how much load is applied to the leg muscles. In addition, performing the techniques of kicking, passing, blocking, and inserting the ball in volleyball requires muscle strength, explosive and rapid strength, and strength endurance that bend and stretch the arms. (A.V.Belaev, 2011; E.K.Axmerov, 2010).

Based on the above data and feedback, it can be noted that the use of specialized exercises in the development of strength qualities inherent in volleyball is of great practical importance.

It is known that the qualification requirements for students of physical culture education of universities provide that they have the knowledge and practical skills specific to all basic sports, including the necessary and adequate physical and technical-tactical training. However, topics in this area are almost never studied as a subject of research.

The purpose of the study.

The research is devoted to the study of the dynamics of the development of strength qualities inherent in this sport in volleyball classes with students of the Department of Physical Culture of the University.

The following methodical tests were used in the study: vertical jump from the ground, vertical jump from running, sitting and jumping, throwing a 1 kg filling ball behind the head with both hands, arm dynamometer, pulling on a horizontal bar for 10 seconds, bending and writing hands for 10 seconds while lying down.

Research results and their comparative analysis.

According to the research conducted before and after the 60-hour practical training on volleyball in the curriculum of the Faculty of Physical Culture, during this period, students learned the practical skills of volleyball, including the physical potential required for teaching or coaching, power qualities are not formed at the level of minimum norm requirements. In particular, the height of the jump, which represents a characteristic jump in volleyball and is crucial in the performance of barrier techniques, was 39.4 ± 3.45 cm before the 60-hour session in the students who participated in the study. By the end of this exercise, the jumping height increased to 42.1 ± 4.72 cm. Hence, the growth rate of the jump was 2.7 cm.

Table 1. Dynamics of growth of indicators of special strength qualities in volleyball lessons with students of the faculty "Physical Culture" - n = 137 (x±δ)

Methodical tests	Before the start of the session	At the end of the session		IIIc/discharge standards
Vertical jump from the ground (cm)	39,4±3,45	42,1±4,72	2,7	54,7
Running and vertical jump (cm)	44,5±5,07	46,3±5,63	3,4	59,6
Throwing the t / ball away in the sitting position (M)	6,33±1,04	8,27±1,37	1,94	10,6
Throwing the ball away in a standing position (M)	9,87±2,13	11,73±2,44	1.86	16.8
Pulling on a horizontal bar for 10 seconds (times)	5,06±0,52	6,33±0,79	1.27	7.5
Right hand claw force (kg)	41,11±3,02	43,18±3,24	2.07	49.0
Left hand claw force (kg)	40,07±2,63	42,25±2,93	2.18	—
Bend your arms for 10 seconds while lying down (times)	5,77±0,49	6,85±0,84	1.08	8.5

It can be seen that this figure was 12.6 cm less than the minimum norm for the third category (54.7 cm) during the period.

The running vertical jump height, which played a leading role in the execution of the attack shots, was also characterized by sluggish dynamics and increased from 44.5 ± 5.07 cm to 46.9 ± 5.63 cm. However, this figure was actually supposed to be 59.6 cm. Hence, it can be admitted that the explosive power of the leg muscles was not sufficiently developed in the students who participated in the study.

As mentioned above, in volleyball, in order to pass the ball from the ground or jump, the hand-writing force must be highly formed. However, test results that reflect this ability, such as throwing a stuffed ball (1 kg) while sitting, were measured at 6.33 ± 1.04 meters before the start of the session, compared to 8.27 ± 1.37 meters at the end of the session. Apparently, the explosive power of the arm muscles only increased to 1.94 meters. When performing this test in the standing position, the explosive power readings of the hands were 9.87 ± 2.13 and 11.73 ± 2.44 meters, respectively. The growth difference of this power type was expressed as 1.86 m. According to these tests, the distance between the throwing of the filling ball is set at 10.6 and 16.8 meters according to the minimum requirements.

It is known that in volleyball, the hands are first partially bent, and then sharply written, in order to perform the methods of passing the ball, attacking strokes, and blocking. This means that in volleyball, both the flexor muscles of the arms and the extensor muscles must be formed in proportion. However, it was used to assess the strength of the flexor muscles of the arms - the number of pull-ups on the horizontal bar for 10 seconds was 5.06 ± 0.52 times before training and 6.33 ± 0.79 times after training. This means that the strength of the muscles that flex the arms has increased only 1.27 times as a result of 60 hours of training. Experts say that in volleyball, the strength of the wrist-claws of the hands, especially the muscles that bend the wrists, should be formed when attacking, blocking, passing and passing the ball (A. V Belyaev 2011; E. K Akhmerov, 2010; G.Furmanov, 2007; A.A.Pulatov, 2018). However, in the students who participated in the study, it was found that the indicators of right and left wrist-claw strength actually developed very slowly, both at the end of the 60-hour session.

In volleyball training, most trainers chronically use bending-writing exercises while leaning on the hands to develop and evaluate the strength of the hand-writing muscles. Such a test or exercise is applied at different time intervals in volleyball because the strength of the muscles that quickly record the hands is a priority. In our study, the number of bending and writing arms in the supine position for 10 seconds increased by 5.77 ± 0.49 times before the class, and by 6.85 ± 0.84 at the end of the class. This means that even this type of power is not sufficiently polished in faculty students.

Conclusion.

Based on the real strength indicators analyzed above and their dynamics of change after 60 hours of academic training, a number of considerations can be recognized. First, the average statistics obtained and their standard deviation indicate that the physical training, including strength qualities, were extremely poorly developed in the faculty students who participated in the study, and that they did not differ significantly from each other in these qualities. Second, it was observed that the strength qualities studied in these students did not develop rapidly even after 60 hours of training. In our opinion, in order to adequately develop not only the strength qualities, but also other physical qualities and technical-tactical movements in the students of the faculty, practical classes should be held twice a week for 1 and 2 semesters, and in 3 - 8 semesters as elective classes.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 9.035	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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TECHNICAL MEANS FOR RECOGNITION OBJECTS IN CONDITION OF UNCERTAINTY

Abstract: *This article details the functionally useful criteria for recognizing objects in terms of uncertainty and error correction algorithms.*

A method for analyzing a non-stationary random signal is proposed for obtaining an estimate of the useful signal during information processing under uncertainty conditions. Using the proposed method of estimating the useful signal allows you to get a unified approach to processing.

Key words: *satellite communication, holography, synthesis of recognition systems, vicious, geometric contours, risk, recognition errors, image.*

Language: *English*

Citation: Juraeva, N. I., & Khayrullaev, A. F. (2021). Technical means for recognition objects in condition of uncertainty. *ISJ Theoretical & Applied Science, 09 (101)*, 768-772.

Soi: http://s-o-i.org/1.1/TAS-09-101-110 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.110

Scopus ASCC: *2200.*

Introduction

It is well - known that processed signals in the direction of radio engineering such as radiolocation, radio navigation, space commu-nication, artificial satellite communication, and recently developing holography are mainly visual information.

The signal being processed must give a complete picture of the object. Theoretical and practical experiments show that these signals, during processing due to numerous noise and noise, can give incorrect representations, i.e. processing of the visual signal is carried out under conditions of uncertainty.

The selection of the most informative (useful) signs in the synthesis of recognition systems is one of the most important tasks of the theory and practice of recognition. However, to date there is no corresponding formal formulation of this problem. In the informal formulations of the problem, the definition of informative features follows: 1) reducing to the minimum the number required for describing classes of attributes without significantly increasing the probability of recognition error; 2) the possibility of using relatively simple recognition algorithms; 3) reduce the likelihood of recognition errors. The solution of this problem usually involves issues of simplifying the recognition system and improving the quality of its work. There are two approaches to building an effective feature system.

The first approach is that from the very beginning, the installation is taken to find a small number of signs of great information. However, all the methods used in this case are still based on heuristics and empirics, so there is a choice of signs determined by the intuition, experience and imagination of the developer. However successful the system of features

may have been, one cannot prove that it is better than some other one.

The second approach is that out of a large number of initial features, according to a certain criterion of feature effectiveness, the smallest number of features that are most useful for recognizing features is selected. The second approach to building an effective system of signs is more constructive than the first, although it has a significant drawback: with the obligatory presence of a link between the criteria for the effectiveness of signs and the probability of recognition errors, there is no functional dependence between these quantities.[1,2].

1. Statement of a problem

It is not possible to reliably estimate the change in the probability of recognition errors after minimizing the description, thereby leaving doubts about its effectiveness. The aggravating factor here is the fact that the probability of errors is determined not only by the system of signs, but also by the adopted decisive rule, and depends on the errors that occur in the real recognition system. This explains the lack of winners of the use of criteria for the effectiveness of signs in the practical implementation of recognition systems. Based on the second approach to the selection of useful traits, it is possible to functionally associate the criterion of the effectiveness of the traits with the probability of recognition errors.

2. The concept of the problem decision

The utility of some feature in the initial set of n features will be determined by the increment of the total probability of errors ΔP_m with the exception of this feature from the original set:

$$\Delta P_m = P_m - P'_m \qquad (1)$$

where P_m is the total probability of recognition errors of classes A_1 and A_2 for the initial set of n features; P'_m is the total probability of recognition of classes A_1 and A_2 with the exception of the k-th feature from the initial aggregate.

Depending on the sign of the increment of ΔPm, the following cases may occur:

- $P_m < 0$ - the sign k is useful, since its exclusion from the original description leads to an increase in the probability of error;
- $P_m = 0$ - the sign k is useless, since its exclusion from the original description does not change the probability of error;
- $P_m > 0$ - the sign k is harmful, because without it the probability of recognition error decreases.

Such an approach to the determination of the criteria for the utility of attributes implies the use of a specific decision rule, since it is only within its framework that a recognition error makes sense.

If the existence of useful or useless signs does not cause any doubts, since a large number of easily controversial examples confirms it, then the concept of "harmfulness" of signs seems at first glance to be controversial. However, it does not contradict the statement that harmful information does not exist. Information about the harmfulness of the trait is useful information; the whole question is whether it is properly used.

The difficulty of perception and awareness of the concept of harmfulness of a trait lies in the fact that it arises in its pure form only when distinguishing two classes. In the case of a larger number of classes of "absolute" harmfulness of a trait, as a rule, there is no harm: the harmfulness of a trait in distinguishing certain pairs of classes is opposed to its usefulness in distinguishing other pairs.

The "disappearance" of harmful signs when distinguishing more than two classes is only apparent. It occurs due to averaging of the effectiveness of signs over all pairs of classes under the conditions of the prevailing number of useful signs. The negative effect of signs harmful for distinguishing one or another class does not disappear and is expressed in an increase in the probability of recognition error of these classes, and, consequently, of the total recognition error [3,4].

When recognizing more than two classes, a "vicious" circle may arise the inclusion of some attribute in the description of classes will be useful for distinguishing one pair of classes, but harmful for distinguishing others, the exclusion of this feature from the descriptions of classes on the contrary will prove harmful for distinguishing the first classes and useful for distinguishing the second. The consequence of this contradiction is the obligatory increase in the number of recognition errors with an increase in the size of the alphabet of classes for any decision rules that use one standard per class.

Only based on the analysis of the utility, uselessness or harmfulness of a sign when each of the pairs of classes of a given alphabet is divided can the alternative of including or excluding this sign from the original description be solved from the point of view of minimizing recognition errors.

3. Realization of the concept

After the implementation of the contour preparation algorithm, it is necessary to recognize the types of selected simply connected geometric contours and to determine some of their geometric parameters (sizes). It is convenient to divide the procedure for recognizing contours and determining their geometrical parameters from arriving at the input of a pictorial image system to issuing simply connected contours to the system and determining their geometrical characteristics into three stages.

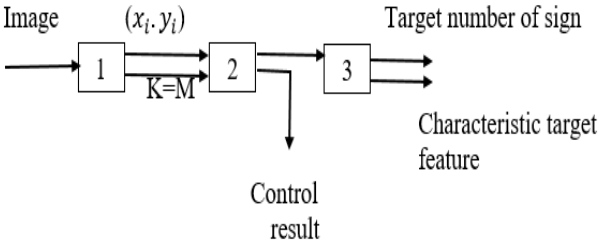

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Figure 1. Contour recognition stages:
1 - Preliminary preparation of images; 2 - contour recognition; 3 —recognitions target traits

Consider the steps of the contour recognition algorithm.

Stage 1. At this stage, preliminary preparation of graphic information is carried out (block 1). At the output of block 1 (Figure 1), sets of points $(x_i, y_i, B_i)_k$ where k are formed (where k = 1, 2, 3... is the number of a simply connected contour) of separate simply connected contours, which are the initial data for the block 2

Stage 2. At this stage, the shapes of geometric contours are recognized (block 2). Each recognized contour is assigned a sequence number.

The recognition algorithm works on the principle of coincidence or non-coincidence of the area of an unknown figure, found in two different ways. The first method allows you to determine the area of the shape of the existing coordinates of its points, using, for example, the formula of a triangle or a trapezoid. The area of the figure found in this way is called integral and denoted by S_i. The area of the same figure can be found by the second method through the system of geometric parameters of the figure, characterizing its size, elongation and compactness.

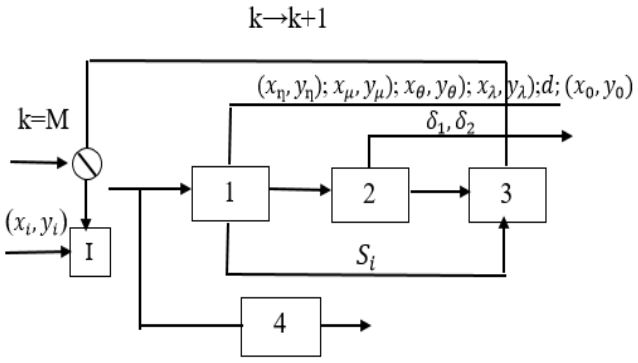

Figure 2. Outline recognition step procedures: 1 - normalization; 2 - determination of parameters δ_i; 3 - contour analysis; 4 - output points of contours on teletype

The area of the shape found by this method is called geometric and denoted by S_g.

Stage 3. At this stage, the formation of features characterizing the intended purpose of the classified objects occurs, and the numerical values of their geometric parameters are determined (block 3).

Error detection of object recognition

The statistical classification methods are based on the assumption that the probability density function $f(x)$ for any of the distinguished classes is nonzero on the entire set of feature values. That is, any vector x can appear in any of the classes, but with a different probability. Since we are inevitably forced to strictly define the boundaries between classes in the space X, there is always a chance that a certain number of points from any class fall into the others. This error is called *the first kind error (α)*. On the other hand, a certain number of points from other classes can get into this class. This error is called *the second kind error (β)*. The total error probability of selecting each class is thus p (α) p (β). The errors arising from the classification into N classes are usually described as a table (error matrix):

Table 1.

Veritable\result	K_1	K_2	…	K_N
K_1	σ_{11}	σ_{12}	…	σ_{1N}
K_2	σ_{21}	σ_{22}	…	σ_{2N}
…	…	…	…	…
K_N	σ_{N1}	σ_{N2}	…	σ_{NN}

The rows of this matrix correspond to the fraction of images from the K_i class to the K_j class. Thus, the diagonal of the matrix is the proportion of correctly classified images, that is, they fall into their class [4].

The sum of all other values on the line is the proportion of images that fell to other classes, that is, the error of the first kind. The sum of all other values in a column is the proportion of images that fall into this class from other classes, that is, the error of the second kind. Naturally, we cannot ensure with such a formulation of the problem a decision with a minimum error for each individual image. However, with a large number of images, as in the case of the classification of image pixels, we can try to minimize the average error probability $p(\alpha) + p(\beta)$ with repeated decision-making.

For this purpose, the concept of "risk" is introduced, that is a fee for each error, and a condition is determined that corresponds to the minimum of the average risk. For a pair of classes K_i and K_j, it has the following form:

$\frac{P_i f_i(x)}{P_i f_i(x)} = 1$ or in logarithmic form $ln\frac{P_i f_i(x)}{P_j f_j(x)} = 0$ (2)

Since we are looking for a minimum risk with repeated decision making, expression (2), besides probability density functions, also includes a priori probabilities P_i and P_j. We can say that these probabilities characterize the frequency of appearance of each class on the analyzed set of images, which is proportional to the fraction area under this class.

The second expression from (2) corresponds to the already known form of the separating function for a pair of classes: $d_{ij}(x) = 0$. That is, if $P_i f_i(x) \geq P_j f_j(x)$, then we decide in favor of the class K_i, otherwise we decide in favor of the class K_j. The ratio (2) is called the likelihood ratio, and the functions in the numerator and denominator are called likelihood functions. In another way, we can say that at each interval we decide in favor of the class whose total probability within a given set of images for a specific value of x is maximum. This decision rule is called the maximum likelihood principle.

In the case when the entire set of images must be broken down exactly into N classes, the maximum likelihood principle is often written using the Bayes formula for a complete system of N statistical hypotheses. In such a system, it is assumed that the probability of the implementation of at least one of the N hypotheses is one. In our case, the hypothesis is the belonging of the image of x to a certain class K. Then for each concrete implementation of x, the probability of the implementation of the k-th hypothesis is

$$P\left(\frac{K_k}{x}\right) = \frac{P_k p(x/K_k)}{\sum_{i=1}^{N} P_i p(x/K_i)} \quad (3)$$

The value of P (Kk / x) is called the posterior class probability for a particular image x, that is, the probability obtained on the basis of an experiment in which we know the probability of the appearance of the image x in each class. In fact, this is the same likelihood function, expressed in fractions of the total probability of the occurrence of a particular x on a given set of images. Therefore, the classification rule remains the same: the decision is made in favor of the class for which the a posteriori probability is maximum.

Conclusion

It should be noted that the problem of recognition of optical images is one of the urgent problems of information technology and is solved with the help of optical - electronic systems with some elements of artificial intelligence. Currently developed for optical - electronic recognition systems based on the use of statistical, structural and other methods of image recognition, as well as some methods that are a combination of the above. Such machine vision systems are widely used in a number of areas of technology and, above all, for visual inspection of industrial products.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 9.035	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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INFLUENCE OF IRON MICRONUTRIENT ON THE FORMATION OF YIELD OF SOYBEAN VARIETIES

Abstract: *The article provides data on the formation of the yield of soybean varieties "Orzu" and "Nafis" under the influence of iron. In this article, , the effect of iron under the background of mineral fertilizers on the growth, development, yield formation and grain quality is given in comparison with control option, the positive effect of iron on the formation of the yield and its quality is determined.*

Key words: *Soybean, Orzu, Nafis, growth, development, iron, mineral fertilizer, yield, protein, oil, grain.*

Language: *English*

Citation: Kamolova, N. Sh., & Umarova, N. S. (2021). Influence of iron micronutrient on the formation of yield of soybean varieties. *ISJ Theoretical & Applied Science, 09 (101),* 773-779.

Soi: http://s-o-i.org/1.1/TAS-09-101-111 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.111

Scopus ASCC: *1100.*

Introduction

The modernization of agriculture of the republic and its intensive development are envisaged in order to solve the problem of food security, production of environmentally friendly products, and increase the share of agricultural exports.

In recent years, special attention has been paid to the expansion of soybean grain production in the country. This is due to the multifaceted use of soybeans, due to the chemical composition of the grain. Soybean grain contains 28-55% protein, which is equal to the protein of meat, eggs, milk; 18-27% environmentally friendly vegetable oil; 20% carbohydrates, numerous mineral salts, vitamins.

In the period when there is a deficiency of protein, soybean grain, rich in proteins and a set of essential amino acids, is a source of valuable protein. Therefore, in many countries soybean crops are expanding, gross grain production is increasing from year to year.

In Uzbekistan, in 2020, soybeans were sown in the main crops on an area of 20 thousand 300 hectares. Simultaneously with the expansion of the cultivated area, it is necessary to study the individual elements of the technology of cultivation of soybeans in the main and repeated crops in order to obtain higher yields. Biologically, soybeans can yield more than 100 c / ha, but in practice, it is difficult to get a yield of 40 c / ha. Basically, the yield of soybeans fluctuates between 15-30 c / ha. There are many reasons for the low yield of soybeans under production conditions, but they are often encountered: 1) insect pests and diseases; 2) the emerging deficiency of nutrients (for example, nitrogen, phosphorus, sulfur, zinc, iron, boron) associated with low doses of macro and micronutrient fertilizers), a low level of use of nodule bacteria inoculation.

Literature review

Scientists of Uzbekistan conducted studies to study the effect of mineral fertilizers on the yield of soybean varieties in different zones of the republic (D. Yormatova, 1989; Kh.Atabaeva, 2004, 2011; I. Israilov, 2011; N. Umarova, I. Abitov, 2016 and

others). But there are very few studies on the effect of microelements on the formation of the yield of soybean varieties. There is not enough data on this issue in the sections of soil differences.

The role of trace elements in the life of soybean culture is very great. Trace minerals are absorbed in smaller quantities by soybeans than nitrogen, phosphorus, potassium and sometimes calcium, magnesium and sulfur. Despite this, their role is no less important, and the lack of micronutrients leads to a significant slowdown in growth rates and a decrease in yield. Iron is a microelement that is absorbed by plants in the greatest amount, therefore it is sometimes referred to as a macroelement. However, in terms of physiological functions, this is a typical trace element. Iron plays an important role among all the metals found in plants. This proves that it is found in plant tissues in greater quantities than other metals.

Iron is a functional part of plant enzyme systems. Its role is especially important in oxidative and energy metabolism, in the formation of chlorophyll.

Iron plays an important role in metabolic processes such as enzyme activation, chlorophyll synthesis, photosynthesis, and nitrate reduction. (agrodialog.com.ua) Young trifoliate leaves of soybean plants experiencing iron deficiency first fade, after which they acquire pronounced chlorotic signs. Chlorosis begins at the edge of the leaves and spreads to the midrib. The edges and tips of young leaves die off and curl. Severe iron deficiency leads to premature leaf fall, as well as impairment of flowering and fruiting. Iron deficiency is typical of acidic soils with a coarse texture and low organic matter content. (agrodialog.com.ua),

Balanced application of fertilizers avoids both deficiency and excess of nutrients, as well as possible negative interactions between them. Iron fertilizers are used mainly for foliar feeding, since in the soil mineral forms of iron quickly bind to compounds inaccessible to plants; iron fertilizers are used for foliar feeding - a 0.5-1% solution of ferrous sulfate or 0.15-0.5% solution of an iron complex. Solutions are made in iron, plastic or glass tanks. However, they should not come into contact with copper, zinc or brass parts. Spraying is done 2 times during the praxis period at the beginning of flowering and bean formation. Foliar feeding of plants with signs of chlorosis is carried out 2-3 times in the morning and whether the evening hours. Consequently, all the missing substances must be introduced in doses that are optimal for the nutrition of the culture, taking into account the level of their general influence on the plant and on each other. Only in this case, a positive interaction is possible between them, leading to an increase in yields (agrodialog.com.ua).

X.N.Atabaeva, F.B.Namozov, A.A.Kurbanov and S.Sh.Khayrullayev (2020), in their experiments in 2018-2020, found that when micronutrients affected soybean crops, micronutrients affected stem height, leaf and root development, root nodule formation, grain quality and yield, and provided high yields [13].

According to R.Juraeva, J.Tashpulatov, A.Iminov, H.Bozorov, Khatamov S.R, Khayrullaev S.Sh and L.Zaynitdinova (2020), in their experiments in 2015-2017, mineral fertilizers and rhizobium were applied to soybeans. When exposed to strains of azotabacteria belonging to the group, it was observed that the yield increased by 12.6-12.8 c / ha compared to the control variant [9].

According to Khayrullayev Sardor Shamsiddin ugli (2021), the application of micronutrients in the suspension method 2 times during the application period of soybean varieties in the conditions of meadow-swamp soils provides an increase in grain quality [11].

According to data of Atabayeva Khalima Nazarovna, Khayrullaev Sardor Shamsiddin o'g'li, and Usmonova Shohista Usmon qizi (2020), sulfur has a positive effect on the branching of soybean varieties on the background of mineral fertilizers, and in 2018 the number of branches in the variety "Orzu" increased by 0.8-1.3 compared to the control option due to the micro element sulfur. In the "Nafis" variety, this figure was 0.3-0.4, and good results were obtained from medium and high sulfur standards. In 2019, these indicators increased by 0.3-0.7 in the variants of sulfur compared to the control in the "Orzu" variety, increased by 0.1-0.3 in the "Nafis" variety, and good results were obtained from the medium and high standards of sulfur [8].

According to Iminov Abduvali Abdumannobovich, Khayrullayev Sardor Shamsiddin ugli, et al, Nitragine treatment of soybean and mung bean seeds before sowing had a positive effect on seed germination under both laboratory and field conditions, the germination rate of seeds in the laboratory under the conditions of cotton cultivation in the following year under the background of non-treatment by nitragine before sowing the seeds of soybean and mung bean crops grown as a secondary crop after winter wheat was 0.3-1.3%, and field fertility was 0.2-0.8% higher. Also, it was found that the use of phosphorus and potassium fertilizers in soybean and mung bean crops grown as a secondary crop was 0.6-1.0% higher in the laboratory, and 0.6-0.7% higher in the field than in the control options without mineral fertilizers in studies [7].

According to Umarova Nigora Sadriddinovna, Bo'riboyev Bekzod Yetmish ugli, Khayrullayev Sardor Shamsiddin ugli, Usmonova Shokhista Usmon kizi, & Turdaliyeva Shokhista Tulkinjon kizi, the demand of the soybean plant for mineral fertilizers, it was observed that when NPK and liquid fertilizer were used together, all the biometric parameters and yields of the plant increased by varieties compared to other methods. The use of mineral fertilizers in different ways in typical sierozem soil conditions affects the grain yield of local and foreign varieties. In

other words, the average yield of medium-ripe soybean varieties "Nafis" was 43.4 c / ha, "Vilana" was 42.4 c / ha, and the best way to increase the yield is to apply fertilizers as NPK in combination with liquid fertilizer [14].

According to data of Khayrullayev Sardor Shamsiddin o'g'li and Usmonova Shhista Usmon qizi, the location of the lower first pod in soybean varieties is 12.8-15.9 cm in Orzu variety, 3-3.1 cm in Radimax stimulator, 2.2-2.4 cm in Gummat stimulator, 2.1 cm in Tecamin stimulator and 3.1 cm in Algora stimulator was found to be high. The most effective results were observed in Radimax, Gummat and Algora bio-simulators, and the location of the lower first pod was detected 14.7-17.6 cm in the "Nafis" variety, which was 2.5-2.9 cm higher in the Radimax stimulator, 2.2-2.5 cm higher in the Gummat stimulator, 2.1 cm higher in the Tecamine stimulator, and 2.4 cm higher in the Algora stimulator than in the control variant. The most effective results were observed in Radimax, Gummat and Algora biosimulators [10].

According to data of Kayrullayev Sardor Shamsiddin ugli and Usmonova Shokhista Usmon kizi, Mineral fertilizers and sulfur microelements activate the symbiotic activity of the soybean variety "Orzu", averaging 32.4-42.3 million pieces per hectare, the number of nodules due to the background of mineral fertilizers increased by 13.6%, and found to have increased 19.4-23.4% due to sulfur. Also, the average weight of nodules was 6.46-9.56 c / ha, due to the background of mineral fertilizers the weight of nodules increased by 5.3%, and 17.1- 32.4%due to sulfur. During the validity period, according to the studied variants, the mass of nodules was accumulated at 6.46-9.56 c / ha per hectare, which contributes to the increase of nitrogen and organic matter in the soil and a slight increase in biological efficiency [12].

Methods and materials

Field studies were carried out at the Experimental field of the Tashkent State Agrarian University. The experimental field is located near Tashkent in the upper part of the Chirchik river in the Kibray district of the Tashkent region, at an altitude of 481 m above sea level. The experimental field has the following coordinates: 41°2'N and 38°31'E. The relief of the site is uneven, slightly wavy, with a general slope towards the Salar Canal. Water from the Buzsuv canal was used for irrigation.

Table 1. Characteristics of the soil of the arable layer of the experimental field

№	Indicator	Value
1.	Arable layer, cm	25
2	Humus horizon, cm	50
3.	pH saline	7
4.	Hydrolytic acidity, mg.eq. per 100 g of soil	0,7
5.	The amount of absorbed bases	6,6-7,0
6.	Absorption capacity, mg equivalent per 100 g of soil	7,4-7,6
7.	Degree of saturation with bases,%	88-90

Before the experiment was set up, the content of nitrogen, phosphorus and potassium was determined in the experimental field. The data are summarized in Table 2 below.

The soil of the experimental site belongs to typical sierozem soils of old irrigation, non-saline, with a low humus content of 0.9 - 0.7%, nitrogen 0.082-0.066%, phosphorus 0.153-0.139%, i.e. the supply of nutrients to the soil is low. The soil is characterized by weak structure, good water permeability with high capillarity.

Groundwater occurs at a depth of 5-6 m. The reaction of the soil solution is slightly alkaline. Irrigation causes soil compaction. Another unfavorable property is the tendency to form a soil crust after irrigation or precipitation.

Table 2. NPK content in the soil of the experimental plot

№	Soil horizons, cm	Gross content, %				Mobile forms, mg / kg		
		humus	N-NO_3	P_2O_5	K_2O	N-NO_3	P_2O_5	K_2O
1.	0-30	1,08	0,08	0,14	1,33	42,1	23,0	180,6
2.	30-50	1,02	0,07	0,13	1,30	38,9	21,0	162,0

With the use of organic and mineral fertilizers and good agricultural technology, high yields of field crops can be obtained on these soils.

Research object: soybean varieties "Orzu", Nafis, iron norms, NPK fertilizer complex and typical sierozem soil. The studies were carried out by the field method in four replicates. The plots were allocated by randomization. Plots are 4-row, 10 m long, 2.8 m wide, plots area 28 m^2. During the research, modern methods were used. All phenological studies were carried out according to the "Methodology of the State Variety Testing of Agricultural Crops, the leaf area was determined by the method of nibbling according to Nichiporovich. Statistical processing of the research results was carried out according to the "Methodology of field experience" (B.A.Dospekhov, 1985)

Experimental options: 1. Control without the use of mineral and micronutrient fertilizers; 2.Background- $N_{50}P_{100}K_{70}$; 3. Iron rate 2.5 g / 10 l; 4.Iron-5.0 g / 10 l; 5. Iron - 7.5 g / 10 l; Microfertilizers were applied by foliar feeding in the form of a suspension in the budding phase and the formation of beans in the morning according to the accepted standards for study.

Sowing was carried out on May 2 in a wide-row method with a row spacing of 60 cm, between plants 5 cm, a numerical sowing rate of 500 thousand pieces of germinating seeds for the Orzu variety and 400 thousand pieces of seeds for the Nafis variety, or 62.5 and 68 kg / ha to a depth of 5 cm. During the praxis period, 3 cultivations and 5 irrigations were carried out. Harvested when the pods are fully ripe.

Results and discussion

They showed a positive effect of micronutrient fertilizers under the background of $N_{50}P_{100}K_{70}$ on plant growth, on the mass of 1000 seeds, as well as on the yield of soybeans. Plant density has a significant impact on the size of the crop. The Orzu variety has 500 thousand units when sowing. seeds, preserved for harvesting 451.5-477.2 thousand pieces, and in the Nafis variety seeds - 355.3-374.2 thousand pieces, when sowing 400 thousand pieces.

Table 3. Formation of Yield of soybean varieties under the influence of iron nutrient

№	Options	Seedling thickness, Thousand /ha	Praxis period, days	Plant height, cm	Leaf area m^2/ha	Weight of root, c/ha
Orzu						
1	Control	451,5	111	103,3	38,88	22,2
2	Background-$N_{50}P_{100}K_{70}$	457,0	111	107.9	43,30	26,7
3	Background+Fe-2,5	477,2	111	110,9	42,30	28,6
4	Background+Fe-5,0	463,1	112	107,5	39,90	29,7
5	Background +Fe-7,5	463,2	111	101,5	30,70	29,5
Nafis						
1	Control	355,3	124	144,3	44,80	22,8
2	Background-$N_{50}P_{100}K_{70}$	367,7	126	147,1	48,10	29.7
3	Background+Fe-2,5	374,2	130	149,4	48.0	31,1
4	Background+Fe-5,0	372,6	130	142,4	46,90	32,0
5	Background+Fe-7,5	372,6	129	142,6	45,20	31,0

The studied options influenced only the development of the Nafis variety. The praxis period has lengthened by 2-6 days. Due to mineral fertilizers, the height increased by 4.9 cm in the Orzu variety and by 2.9 cm in the Nafis variety compared to the control option. With the introduction of iron at different rates, the height of the plants increased by Background+Fe-2.5 7.6 cm; and on the Background+Fe-5.0 -4.2 cm; and decreased by 1.8 cm at Background+Fe-7.5. With the introduction of iron in the Nafis variety, with different rates, the plant height increased due to fertilization by 2.8 cm. On the Background+Fe-2.5 - 2.3 cm; on the Background+Fe-5.0 decreased by 1.9 cm and 1.7 cm.

The leaf area due to the application of Background-$N_{50}P_{100}K_{70}$ increased by 4.42 thousand m^2 / ha and decreased by 2.9 thousand cm^2 / ha with the introduction of Background+Fe-7.5.

The weight of 1000 pieces of grain in the control was 137.7 grams. In all variants of soybean nutrition with mineral and micronutrient fertilizers, larger seeds were formed. The mass of 1000 seeds in the Orzu variety increased by 11.5 grams with the introduction of mineral fertilizers and decreased with the introduction of the iron trace element in all variants.

Due to macro and micronutrient fertilizers, the mass of roots increased in the Orzu variety by 4.5 - 7.5; In the Nafis variety by 5.9-9.2 centners / ha (Table 3).

Weight 1000 pieces of seeds in the Nafis variety increased by 1.6 g with the introduction of mineral fertilizers, and in the Orzu variety - 1.5 g. With the introduction of the iron trace element, a decrease in the indicator is observed in all variants.

Improving the nutrition of soybeans with mineral and micronutrient fertilizers ensured an increase in grain yield. So, on the control option was received 19 c / ha of grain. Due to the use of $N_{50}P_{100}K_{70}$, the grain yield of the Orzu variety increased by 7.6 c / ha. The use of $N_{50}P_{100}K_{70}$ with micronutrient fertilizers in the Orzu variety during the growing season provided an increase in the grain yield when applying different doses of iron by 0.9-0.3 c / ha, and the Nafis variety when applying iron to the Background+Fe-7.5 by 1 c / ha.

The yield of field crops depends on many factors, the most important of which are plant density. The yield obtained depends on the degree of germination safety.

The expected yield is determined by the plant density at the end of the growing season, the trace element iron was used only in the budding and flowering phases, so it did not affect the growing season of soybeans. The use of a microelement in the "Orzu" variety influenced the plant density, in the control 451.5 thousand / ha were formed, and in the Background - $N_{50}P_{100}K_{70}$ - 457.0 thousand / ha.

In the control variant and when using mineral fertilizers of the Orzu variety Background + Fe-2.5 and Fon + Fe-7.5, the growing season was the same 111 days. And when using Background + Fe-5.0, the growing season in comparison with the control variant was lengthened by 1 day and amounted to 112 days.

In the test variants of the Nafis variety, the growing season in general was 124-130 days. With the use of the trace element iron, the growing season was lengthened by 1-5 days. Compared to Orzu, the Nafis variety is mid-season.

The use of macro and microelements of iron in the Nafis cultivar also increased the leaf area in all variants.

The use of iron in the "Orzu" variety also affected the weight of roots, it increased by 2.4-3.5 c / ha, and the use of Background- $N_{50}P_{100}K_{70}$ decreased by 3.5 c / ha.

The use of macronutrients in the Nafis variety increased the root weight in the Background-$N_{50}P_{100}K_{70}$ variant by 6.9 c / ha compared to the control.

Compared with the control options with the use of iron, the weight of the roots increased from 8.2-9.2 c / ha.

In the "Orzu" variety, the ratio of protein in the control variant was 38.8%, and with the use of mineral fertilizers this indicator increased by 1.6%. When using the trace element iron, the indicator also increased in comparison with the control option from 7.5-9.7%.

Microelements of iron showed a great influence on the studied varieties.

In the "Nafis" variety, the ratio of protein in comparison with the control variant was increased due to the added trace element iron and mineral fertilizers from 5.1-8.6%.

The highest yield indicator of the "Orzu" variety was revealed when using Background-$N_{50}P_{100}K_{70}$, which increased by 7.6 c / ha. When using the trace element iron in all variants from 0.3-6.9 c / ha. In the control variant of the "Nafis" variety, the yield was 21.7 c / ha.

Table 4. Weight 1000 pieces. seeds, yield and quality of grain, depending on the norms of iron.

№	Options	Weight of 1000 pieces of seeds, gr	Grain quality		Grain yield c/ha
			protein	oil	
Orzu					
1	Control	137,7	38,8	19,3	18,8
2	Background-$N_{50}P_{100}K_{70}$	149,2	40,4	18,8	26,4
3	Background+Fe-2,5	131.0	46,3	19,0	25,7
4	Background+Fe-5,0	129.2	47,4	19,0	20,9
5	Background +Fe-7,5	126,7	48,5	18,6	19,1
Nafis					
1	Control	167,2	38.6	19,2	21,7
2	Background-$N_{50}P_{100}K_{70}$	168,8	44,8	18,6	28,9
3	Background+Fe-2,5	158,6	43.7	19,5	30,7
4	Background+Fe-5,0	153,6	45,7	20,0	24,8
5	Background +Fe-7,5	151,7	47.2	19,7	20,7

When using mineral fertilizers, the yield increased by 7.2 c / ha. When using Background+Fe-7.5 compared with the control option, the yield decreased by 1 centner / ha. And when using Background+Fe-2.5 it increased by 9 c / ha, Background+Fe-5.0 by 3.1 c / ha (Table 4).

Conclusions

In typical serozem conditions, the use of $N_{50}P_{100}K_{70}$ with different doses of iron promoted better plant growth, increased leaf area, and also ensured the formation of larger soybean seeds. The yield of soybean seeds of the "Orzu" and "Nafis" varieties increased due to the use of the trace element iron. Better data are obtained with moderate doses of iron. Cultivation of soybean varieties with the use of macro and micro fertilizers contributes to the improvement of grain quality.

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	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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OBTAINING CLAY ADSORBENTS FOR BLEACHING VEGETABLE OIL BASED ON BENTONITS OF UZBEKISTAN

Abstract: *This article considers the possibility of obtaining bentonite adsorbents from local bentonites by acid activation for the purification of vegetable oils. Based on the study, the adsorption of benzene and water vapours on activated bentonite adsorbents established that the value of the activated Krantau and Askamar samples is almost 2.5 times higher than the initial ones. It is necessary to pay special attention to the fact that, even at low relative pressure values (P / Ps = 0.2), the adsorption of benzene vapour increases sharply due to the montmorillonite hydrophilicity. Based on the study, the adsorption of benzene and water vapours on activated bentonite adsorbents established that the value of the activated Krantau and Askamar samples is almost 2.5 times higher than the initial ones. It is necessary to pay special attention to the fact that, even at low values of relative pressure (P/Ps = 0.2), the adsorption of benzene vapour increases sharply due to the montmorillonite hydrophilicity. Therefore, the activated samples' adsorption values of benzene vapours are much higher than those of the original illustrations. It confirms that the activator and activation conditions are correctly selected. Furthermore, it was established that biological samples of Askamar and Krantau bentonite belong to micro-and mesoporous adsorbents since they have a large amount of the latter.*

Key words: *vegetable oils, bleaching, acid number, bentonite, peroxide number, activation, adsorption.*

Language: *English*

Citation: Ismoilova, M. A., Salixanova, D. S., Sadullaeva, M. S., Ruzmetova, D. T., & Agzamova, F. N. (2021). Obtaining clay adsorbents for bleaching vegetable oil based on bentonits of Uzbekistan. *ISJ Theoretical & Applied Science, 09 (101)*, 780-786.

Soi: http://s-o-i.org/1.1/TAS-09-101-112 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.112

Scopus ASCC: *1600.*

Introduction

The oil and fat industry is one of the foremost leading sectors of the food industry in Uzbekistan and determines the country's food security. Vegetable oils, both used directly for food and sent for processing, must be subjected to a complete refining cycle to remove substances harmful to the body, improve presentation, increase organoleptic characteristics, and ensure resistance to oxidation[1].

Adsorption refining (bleaching) is the most crucial stage in the purification of vegetable oils from pigments and the residual amount of phospholipids, salts of fatty acids remaining in oils after the previous refining stages and metal ions.

As adsorbents, particular activated bleaching earth are used, which have selectivity concerning the accompanying substances of vegetable oils.[2].

Currently, bentonite bleaching earth is most widely used in the oil and fat industry. The primary producers are the United States, Malaysia, and China, which determines their high cost on the market. In connection with the above, improving the technology of adsorptive refining of vegetable oils using bleaching clay based on local clays. [3].

As is known [4], the nature of aluminosilicates forming various crystalline forms determines their physicochemical properties and the possibility of selective absorption of gases, vapours or liquids from the environment. Thus, aluminosilicates can act as effective sorbents, which, in turn, are subdivided into groups: natural, inorganic, organo-inorganic, synthetic.

Such compounds are widely used in many industries. However, unfortunately, in Uzbekistan, there is no base for the industrial production of high-quality adsorbents. Therefore, studies of sorption properties, primarily natural aluminosilicate materials (NAM), are of great interest.[7].

High rates of sorption of various substances from solutions are distinguished by the NAM of the montmorillonite (MM) group.[8]. If the material contains by weight not less than 70% of the mineral of the MM group, it is called bentonite.

MM is a clay mineral belonging to the class of layered silicates. Its structure is based on a three-layer package (2: 1). Two layers of silicon-oxygen tetrahedra facing each other with their vertices cover a layer of aluminium-hydroxyl octahedra on both sides.[9]. In the crystal lattice of MM, the basal oxygen surface of one packet interacts with a similar one due to the van der Waals forces (energy 8–12 kJ / mol). Moreover, in comparison with kaolinite, the packets in the lattice are bound several times weaker. Therefore, water and other polar liquids can penetrate between the MM packages and push them apart, which manifests itself in the intense swelling of such NAMs compared to kaolinite ones, in that the MM lattice can split. The interplanar spacing for MM is not as rigid as for kaolinite and can vary from 1.0 nm in a dry state to 14.0 nm, that is, until the complete separation of layers with intense water saturation and the predominance of sodium cations in the absorbed complex.[10].

Methodical part.

Chemical analysis of bentonite clays was carried out following SS 21216-2014 [11], the mineral composition of clays using the Dron-4.0 device, CuK_{α}– and CoK_{α} radiation, Ni - filter [12-13], the adsorption characteristics of vegetable oils before and after their purification were determined according to SS R 52465-2005. Sunflower oil specifications.

Results and discussion.

To understand the reason for the value of bentonite as a promising material for processing into effective sorbents, let us consider the structure of the main mineral in more detail.

Of great interest from the point of view of varying sorption properties is MM-containing clay Askamar (Navoi), Krantau (Karakalpakstan). Therefore, the chemical and mineral composition of MM was studied to obtain a high sorption adsorbent from it.

Chemical analysis of fine clay fractions was carried out following GOST 21216-2014 [11], according to which the weight percentages of SiO_2, TiO_2, Al_2O_3, Fe_2O_3, MgO, MnO, CaO, Na_2O, K_2O and P_2O_5 were determined. From the data of the conducted chemical analysis, the studied clay is rich in alkali metal ions.

Table 1. Chemical composition of mineral clays

Clay	Content,% on dry matter											
	SiO_2	Al_2O_3	Fe_2O_3+ FeO	TiO_2	CaO	MgO	Na_2O	K_2O	P_2O_5	SO_3	CO_2	b.l.
Askamar	60,5	19,9	5,20	0,67	1,8	1,95	2,9	2,7	0,04	0,01	0,07	5,2
Krantau	60,3	16,8	6,6	0,4	1,1	1,9	3,6	2,4	0,2	0,3	0,1	6,7
Dehkanabad	57,91	14,04	5,10	0,8	0,48	1,84	1,53	1,75	0,43	0,75	0,2	15,97

According to the data, the studied samples differ in the content of basic oxides; however, one of the main active oxides, sodium oxide of Askamar and Krantau, is greater than that of the NAB sample allows you to get adsorbents with higher adsorption properties. The mineralogical composition investigated on a Dron-4.0 device, radiation from CuK_α– and CoK_α, Ni - filter. Sample preparation for X-ray phase analysis carries out following the guidelines.[12,13]. The objects under study preliminarily dried to constant weight, then they were ground in an agate mortar and sieved through a sieve of size 006.

Based on the studies [14], the Askamar bentonite contains montmorillonite, palygorskite, quartz. As well as Askamar bentonite is of the highly clayey montmorillonite type, i.e. forms bydelite. The chemical composition of bentonite also indicates that it contains15% alumina.

Comparison of X-ray structures identified phase compositions.[15]. Analyzes show that in the clay sample of the Krantau deposit (KR), which contains mainly sodium montmorillonite, besides the lines characteristic of montmorillonite, there are also lines showing the presence of illite, kaolinite, hydromica, feldspar. [16].

Thus, based on a comprehensive study of the Askamar and Krantau deposits' bentonites, the main component is the mineral montmorillonite. The clay of these deposits differs from other clays of Uzbekistan by the low content of harmful impurity non-clay materials. Montmorillonite is the main constituent of the bentonite mineral. It distinguishes by many fine fractions and a unique structure, which demonstrates qualitative aspects: high adsorption properties and the ability to form a stable suspension. Therefore, the dispersion of previously selected samples studied—the results are in Table 2.

Table 2. Fractional composition of local clays

Clay name	Particle size, mm		
	0,06	0,06-0,0015	0,0015мм и менее
Askamar	0,8	2,7	96,5
KR2	0,6	2,0	97,4
Dehkanabad	0,22	2,3	97,4

Table 2 shows that Askamar is a finer dispersed bentonite mineral since there are more small particles. It was found that on average the main fraction (up to 95%) is 0.0015mm, (up to 2.5%) from 0.06-0.0015mm and (up to 0.10%) from 0.06mm in size particles.

Adsorbents for the purification of vegetable oils should: characterized by high activity, low oil absorption, chemical inertness concerning oil - the adsorbent should not cause oxidation, polymerization, decomposition in oil; separate from the oil by technically simple means, such as filtration; do not affect the smell and taste of the oil.

Based on these factors, the acid activation of the selected bentonite samples was carried out, under the conditions the acid concentration (H_2SO_4, HCl) was from 10 to 20% in an amount of 1: 4, the rotation of the stirrer was 400 rpm, for 4-6 hours. After activation with acid, bentonite neutralized with distilled water. Then bentonite is dried at a temperature of 100-105 °C for 2 hours, and then it is ground to the required size. After acid activation, the structure and, accordingly, the properties of minerals change significantly. In addition to the well-known montmorillonite, the organosilicon substance also exhibits high sorption capacity about the accompanying implications of vegetable oils. [17].

Next, the adsorption properties of the obtained adsorbents were studied, measured in a high-vacuum installation on a McBenas device with mercury gates and quartz balances at a residual pressure of $1.33 \cdot 10^{-3}$ Pa and a temperature of 298 K. The extension of the springs of the installation monitored using a KM-8 cathetometer.[18,19]. Figure 1-2 shows a diagram illustrating the changes in water and benzene adsorption values on the initial and activated samples of Krantau and Askamar clays.

Based on studying the adsorption isotherms of water vapour, the value of the activated Krantau and Askamar samples is almost 2.5 times higher than the initial ones. It is necessary to pay special attention to the fact that, even at low values of relative pressure (P/Ps = 0.2), the adsorption of benzene vapour increases sharply due to the hydrophilicity montmorillonite.

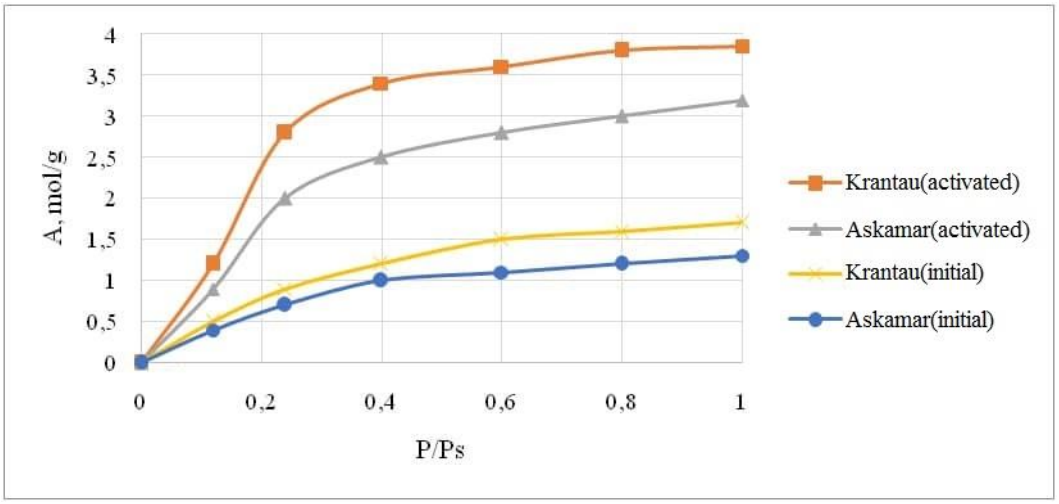

Fig 1. Isotherms of water vapour adsorption on the initial and activated samples of Krantau and Askamar

Figure 2 shows the results of the adsorption of benzene vapour. As the results show, the adsorption of benzene vapour is much lower than the adsorption of water vapour.

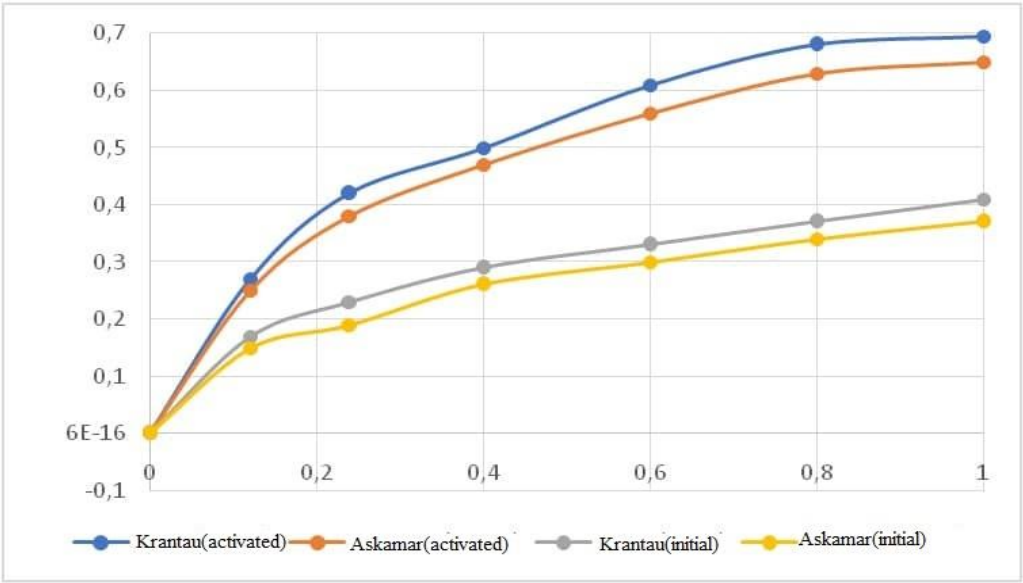

Fig 2. Isotherms of benzene adsorption on the initial and activated samples of Krantau and Askamar.

The activated samples' adsorption values of benzene vapours are much higher than those of the original illustrations. This confirms that the activator and activation conditions are correctly selected. Based on adsorption isotherms, the values of the texture parameters of the samples under study were calculated using the corresponding equations.

Based on the table results, it was established that biological samples of the Askamar and Krantau bentonite belong to micro-and mesoporous adsorbents since they have a large amount of the latter.

Table 3. Textural characteristics of Askamar and Krantau samples calculated from water vapour adsorption isotherms

№	Name of the adsorbent	Monolayer capacity, A_m	S_{sp}, m^2/g	Saturation adsorption α_s, mol/kg	Micropore volume, W_0, sm^3/g	Mesopore volume, W_0, sm^3/g	Saturation volume, $V_s \cdot 10^3$, m^3/kg
1	Krantau	1,929	125,42	3,85	0,47	0,3	0,745

	(activated)						
2	Askamar (activated)	1,409	91,58	3,2	0,45	0,2	0,66
3	Krantau (initial)	0,653	47,35	1,7	0,17	0,11	0,164
4	Askamar (initial)	0,55	35,77	1,3	0,151	0,09	0,118

Table 4. Textural characteristics of Askamar and Krantau samples calculated from adsorption isotherms of benzene vapors

№	Name of the adsorbent	Monolayer capacity, A_m	S_{sp}, m^2/g	Saturation adsorption	Mesopore volume, W_0, sm^3/g	Monolayer capacity, A_m	S_{sp}, m^2/g
1	Krantau (activated)	0,192	46,35	0,84	0,264	0,107	0,0745
2	Askamar (activated)	0,278	66,83	0,65	0,146	0,09	0,057
3	Krantau (initial)	0,171	41,14	0,41	0,104	0,06	0,041
4	Askamar (initial)	0,15	36,04	0,37	0,087	0,043	0,037

Next, the obtained adsorbents carried out the bleaching of sunflower oil, which shows Table 5. For comparison, the bentonite adsorbents of Pakistan, which are used today in enterprises, are taken. The bleaching conditions are standard, i.e. temperature 60-70 ^{0}C, amount of adsorbent 1%.

As shown in Table 5, the adsorbents obtained from local bentonites by acid activation practically do not differ from each other in their adsorption resilience. However, it is noticeable that the adsorbent obtained from the Krantau bentonite oxidizes the oil somewhat less after acid hydration, as indicated by the peroxide number.

Table 5. Oil indicators, before and after their adsorption refining by the obtained activated adsorbents

Indicator name	Indicator value			
	Before adsorption cleaning	After cleaning		
		Adsorbent obtained from Askamar bentonite	Adsorbent obtained from Krantau bentonite	Pakistani adsorbent (control)
Colour number, mg of iodine	10	4	3	4
Acid number, mg KOH/g	0,55	0,17	0,12	0,11
Peroxide number, mmol of active oxygen/kg	8,2	6,8	5,6	6,1

Further, technological characteristics such as filtration rate and oil absorption are studied. The results show in the table. 6.

As can be seen from the above data, oil absorption in the two proposed samples is high because the oil content of the waste bleaching earth should be in the range of 25% to 40%.

The higher the oil absorption value, the higher the oil loss. In the process of filtration, as a result of the compaction of the layer, in the presence of small fractions in it, the resistance of the sediment layer can increase several times.[13]. Then the finely dispersed adsorbent adsorption properties increase; however, the technical characteristics reduce.

Table 6. Study of the influence of the amount of adsorbent on their properties

Indicator name	Indicator value		
	Adsorbent obtained from Askamar bentonite	Adsorbent obtained from Krantau bentonite	Pakistani adsorbent (control)
Oil capacity, %	35,9	34,3	35,2
Filterability (filtration time 100ml), s	214	248	242

Thus, for acid activation, the chemical, mineralogical, and granulometric compositions of bentonite clays have been investigated, and it has been established that the studied samples differ in terms of the content of basic oxides; however, one of the principal active oxides, sodium oxide of Askamar and Krantau, is greater than that of the NAB sample.

Based on the study of the adsorption of benzene and water vapours on activated bentonite adsorbents, it was established that the values of the activated Krantau and Askamar samples are almost 2.5 times higher than the initial ones. It is necessary to pay special attention to the fact that, even at low values of relative pressure (P/Ps = 0.2), the adsorption of benzene vapour increases sharply due to the hydrophilicity montmorillonite. The adsorption values of benzene vapours of activated adsorbents are much higher than those of the initial samples. This confirms that the activator and activation conditions are correctly selected.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
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	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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THE MAIN ISSUES OF FORMATION OF SOCIO-CULTURAL COMPETENCE IN STUDENTS

Abstract: *The article describes the theoretical and methodological basis for the formation of socio-cultural competence. The main issues of formation of socio-cultural competence in students of higher education institutions are also analyzed.*

Key words: *Education, competence, culture, socio-cultural competence, components, activity, problem, upbringing, worldview.*

Language: *English*

Citation: Dzhakbarova, Z. S. (2021). The main issues of formation of socio-cultural competence in students. *ISJ Theoretical & Applied Science, 09 (101),* 787-789.

Soi: http://s-o-i.org/1.1/TAS-09-101-113 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.113

Scopus ASCC: *3304.*

Introduction

Today, it is important to create a modern education based on a person-centered and competent approach, using modern teaching methods, advanced achievements of science. One of the main tasks of modern education is to form the ability to think creatively and logically, mental development, worldview, communicative literacy and self-awareness. The future of society and the state largely depends on how young people are educated and brought up. This is because social culture plays an important role in helping young people, especially students, to fully understand reality, to understand the changes in the life of the world and society, to enter the educational process and understand its essence and content. Therefore, in this process it is necessary to form socio-cultural competence in students of higher education institutions.

Socio-cultural competence also means that a person has the appropriate competence, consisting of a personal attitude to social culture, social activity and social processes [2,454].

The research of N. Solovyova and I. Korneyeva shows that the formation of socio-cultural competence in students is a complex and individual process [4,84]. In this case, it is expedient to study the individuality of the student, the educational environment, the environment and the interdependence of the system of interpersonal relationships. In addition, the effective adaptation process leads to the formation of socio-cultural competence and professional development of future teachers. This affects the efficiency, effectiveness and longevity of the professional (Figure 1).

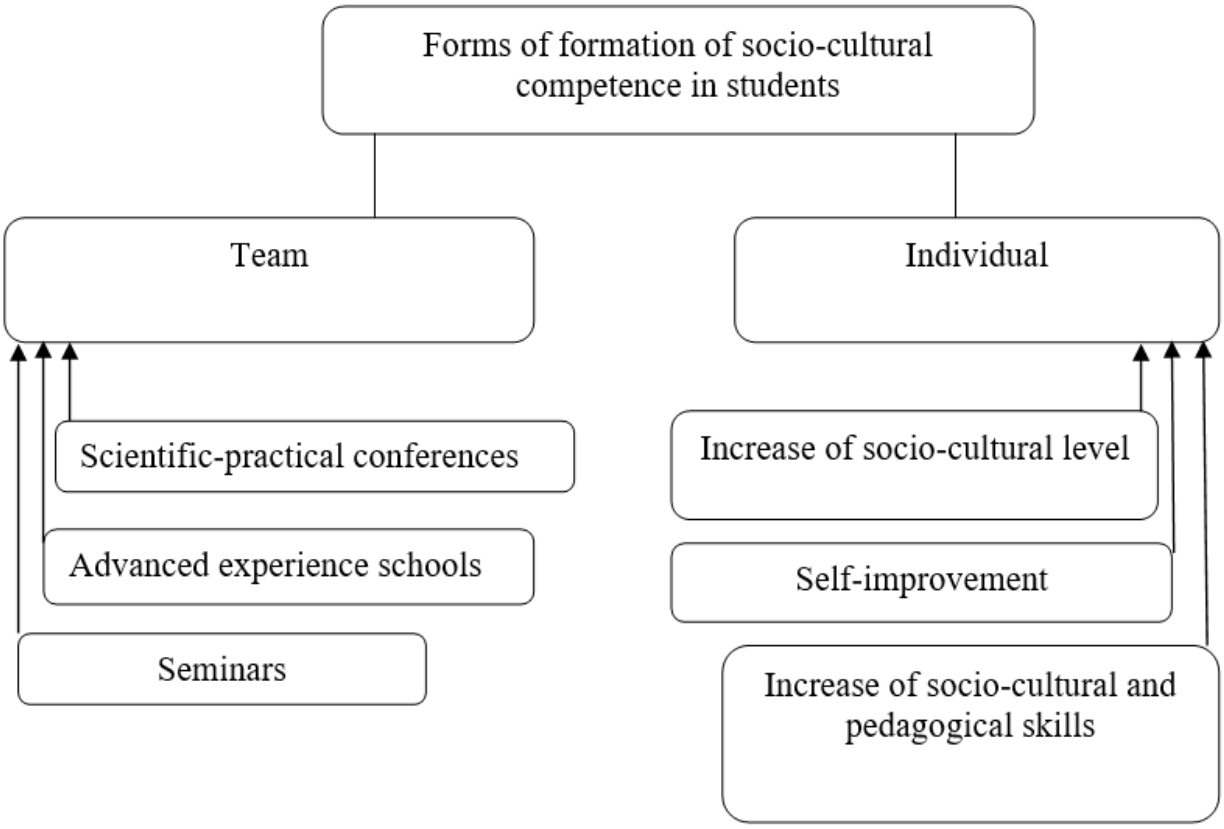

Figure 1. Forms of formation of socio-cultural competence in students

The following principles should be used to apply innovative methods in the formation of socio-cultural competence in students:

1. The principle of loyalty to national traditions.
2. The principle of systemicity.
3. The principle of reconstruction.
4. The principle of adaptability.
5. The principle of achieving the quality of education.
6. The principle of conformity.
7. Aesthetic principle.
8. The principle of cooperation.
9. The principle of taking into account the personal interests, age characteristics and level of preparation of students.
10. Continuous monitoring of the emotional state of students in the organization of independent work of students, course and diplom projects, modeling of collaborative activities in game lessons [1,30].

Through these principles, students' thinking ability, worldview expands, and social culture increases.

Positive results can be achieved if the following are used as innovative methods in the process of formation of socio-cultural competence in students:

- Organization of excursions in different directions.
- Organization of lessons "Excursion", "Pilgrimage" with pedagogical students. Through this method, students can analyze any object, event, or work that is familiar to them, and generalize their knowledge about it.
- Organization of seminar trainings with students.
- Fill out questionnaires.
- Negotiations.
- Virtual-technological lecture.
- Organization of online conferences.
- Conducting video trainings [5,226].

The teacher's creative ability and socio-cultural competence are reflected in the teaching process. This allows teachers to build trusting relationships with students. In this case, the collaboration takes on the character of imitation (imitation, simulation) and a situation of debate arises between students, but the tasks set before them are not solved. It is important for a music education teacher to develop socio-cultural competence in order to achieve the goal set by the teacher and to achieve the quality of education. It is advisable to use the following criteria to develop creativity and socio-cultural competence in the teacher:

- informing students about national values,
- to tell an interesting life story on a topic,
- open and friendly conversation with students,
- fair assessment of students' knowledge,

- encourage creative achievement,
- show personal example,
- have interesting conversations with celebrities for students,
- the search for a solution to a single problem can be cited.

The student requires the teacher to work on himself to form the creativity and socio-cultural competence of the youth. Therefore, any educator should strive to research in the field of education, to achieve positive results, to create their own style. Because the educator guides the future youth of the society.

In conclusion, it should be noted that the pedagogical and psychological directions of innovative formation of teaching in improving the quality of the higher education system require uniformity, common approach, avoidance of the same pattern of educational activities. The search for innovative pedagogical technologies in the organization of an effective educational process and the development of the individual requires a creative approach to each issue. The education system poses such an important task as educating an educated, creative person who is able to quickly adapt to the rapidly studying socio-economic environment, who can rationally organize their independent activities. Therefore, today the increase of social culture of students, the formation of socio-cultural competence is a guarantee of effective results of education and is an important factor in determining the level of our future.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
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SOI: 1.1/TAS DOI: 10.15863/TAS
International Scientific Journal
Theoretical & Applied Science
p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)
Year: 2021 **Issue:** 09 **Volume:** 101
Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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A FACTOR OF ISLAMIC SPIRITUALITY IN OVERCOMING IDEOLOGICAL THREATS

Abstract: *Article discusses the factor of Islamic spirituality and culture in overcoming the ideological threats in this period of globalization.*

Key words: *Manuscripts, scholars, mosque, archeology, mysticism, culture, music, heritage, social diversity.*
Language: *English*
Citation: Abduraimova, Sh. A. (2021). A factor of Islamic spirituality in overcoming ideological threats. *ISJ Theoretical & Applied Science, 09 (101),* 790-792.
Soi: http://s-o-i.org/1.1/TAS-09-101-114 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.114
Scopus ASCC: *3300.*

Introduction

Over the last few decades the matter of saving and protecting youngsters, while the mass culture draws people together, has become one of the most vital issues of our nowadays life. In the era of globalization, we are facing spiritual threats such as acquiring the mind, the spiritual weakening, and the removal of national values. In such cases, it is the main task to integrate the consciousness of Islamic culture and Uzbek culture into the minds of young people. Nobody can argue that Uzbek culture has always been rich itself. However, the entrance of Islam developed this culture much.

Culture, as described by the late Malik Bin Nabi, "is not a discipline confined to one class of people but is a constitution demanded by the public of all shades of thinking and social diversity, especially if it forms the bridge which leads society to advancement and civilization. It also forms the fence that prevents individuals from falling into the abyss."[1]

Science, Architecture, Music in the religion of Islam

If history examined, the science, architecture, music, and others, all were contributed with the help of Muslim scholars. The science for instance, from the second half of the eighth century to the end of the eleventh century, Islamic scientific developments were the basis of knowledge in the world. At a period of history when the scientific and philosophical heritage of the ancient world was about to be lost, Islamic scholars stepped in to preserve that heritage from destruction. It is certain, moreover, that the modern world would look much different than it does today. "For the culture and civilization that were founded on Islam not only preserved the heritage of the ancient world but codified, systematized, explained, criticized, modified, and, finally, built on past contributions in the process of making distinctive contributions of their own. In addition to this, architecture."[2] "The most notable examples of masharabiyah are in the Mosque of Ibn Tulun in Cairo, the Blue Mosque in Istanbul, and the Mosque of Isfahan. After the Ka'ba in Mecca, the "Dome of the Rock" or Mosque of Umar in Jerusalem built in 685 is the oldest example of Muslim architectural genius. The technique of dome construction was perfected and passed on to the West. The technique of dome structural support was used in the Capella Palatine in Palermo (1132), while the campaniles or steeples of

[1] Cultural Strategy for Islamic World, Publications of the Islamic Educational, Scientific and Cultural Organization ISESCO, 1428H/2007

[2] http://www.mei.edu/content/islamic-civilization

the Palazza Vecchio of Florence and of San Marco in Venice are inspired by the minaret which was first built in Qairawan, Tunisia (670). Similarly, the horseshoe arch, which was so prevalent in Islamic form and particularly well realized in the Great Mosque of Damascus (707), has since been copied all over the world. Probably the best known example of Islamic architecture is the Alhambra (meaning al-Harnra or the red one) palace built in 1230 in Granada, Spain."[3]

"The artistic contributions were not limited to architecture, construction, decoration, painting, mosaic, calligraphy, design, metalcraft and wood carving. They extended to music through the development of new instruments and new techniques of sound and rhythm. The Arab Muslims (al-Farabi in particular) were the first to develop a technique of musical harmony paralleling mathematical science. Arabic-Islamic music was characterized by the harmony of sound and evocative emotional expression. Musiqa is the Arabic word for music."[4]

M.Cherif Bassiouni, Professor of law at DePaul University in one of his articles about Islamic civilization highlights that "Because Islam originated and has developed in an Arab culture; other cultures which have adopted Islam have tended to be influenced by Arab customs. Thus, Arab Muslim societies and other Muslims have cultural affinities, though every society has preserved its distinguishing characteristics. Islamic culture inherited an Arab culture born in the desert, simple but by no means simplistic. It has an oral tradition based on the transmission of culture through poetry and narrative. However, it has been the written record that has had the greatest impact on civilization. Islam civilization is based on the value of education, which both the Qur'an and the Prophet stressed."[5]

Islamic religion has not changed Central Asian cultures but has developed including the lifestyle of Uzbek nation. Their lifestyle changed in to better side. Greetings, dress code, and eating habits have become more beautiful. Of course, the place of the Qur'an and the Hadiths is invaluable. At the same time, scholars in the Islamic world also wrote hundreds of works on the development of Islamic culture. The future generations should be brought up based on scientific and spiritual heritage of or great ancestors. Abdilkhalik Gijduvani, the founder of an independent Central Asian school of mysticism, Al-Biruni philosopher, geographer and mathematician, Najmudiin Al-Kubra the founder of the Kubraviya Sufi tariqa and many others can be count as an example. "In the period from the 9th to 12th century – the era sometimes referred to as the Age of the Eastern Renaissance – Central Asia produced some of the most enlightened thinkers, who went on to make groundbreaking contributions in such fields as physics, chemistry, mathematics, astronomy, geography, medicine and agriculture. Muhammad al-Khwarazmi who lived in the 9th century, a mathematician born in the territory of present-day Uzbekistan, is known as the father of algebra, since it is his works which introduced the concepts of algebra into European mathematics. The title of one of his books gave the world the word "algebra," while the word "algorithm" derives from the Latinization of the scholar's name. 11th-century philosopher and scientist Abu Ali ibn Sina, better known in the West as Avicenna, a native of Bukhara, was regarded as the most prominent physician since Hippocrates. The Latin translation of his book "The Cannon of Medicine" was a staple text in the Western medical curriculum for several centuries. The great Central Asian polymath Abu al-Rayhan al-Beruni, who also lived in the 11th century, is believed to be the first person to suggest that a landmass existed beyond Europe and Asia. Many centuries before the rest of the world, al-Beruni discussed the possibility of the Earth revolving around the Sun. He measured the earth's circumference with incredible accuracy, erring from the exact value of 24,900 miles by a mere 200 miles, a remarkable achievement for someone who lived 1,000 years ago.

The Arab Islamic civilization accepts and appreciates the other civilizations, since Islam respects all cultures, nations and traditions. The Islamic conquests and the wide propagation of the new religion in the ancient world enhanced the openness of the Islamic civilization to the other civilizations. Islam encourages coexistence with other religions and cultures. The message of Islam is identical to all revealed messages as it has come to confirm and complete them as the concluding message.[6] The statement above proves that Islam has always respected other religions, civilizations. Moreover, accepted all scientific achievements since they are beneficial for human kind.

Globalization and Islam

Globalization, defined as "the inexorable integration of markets, nation-states, and technologies to a degree never witnessed before, enabling individuals, corporations and nation-states to reach around the world farther, faster, deeper and cheaper".[7] What is Islam's place within globalization? Many prominent scholars define the religion as incapable of

[3] Islamic Architecture, Robert Hillenbrand, Columbia University Press, March, 2004
[4] Music in the world of Islam, Amnon Shiloah, Wayne state University Press, August, 2001
[5] http://www.mei.edu/content/islamic-civilization
[6] Cultural Strategy for Islamic World, Publications of the Islamic Educational, Scientific and Cultural Organization ISESCO, 1428H/2007
[7] Thomas Friedman, *The Lexus and the Olive Tree* (New York: Anchor Books, 2000), 7-8.

adapting to a globalized society because Islam instinctively opposes globalization and the secular values it entails. However, this explorative endeavor favors a multidimensional rather than polemic approach, one that views the recent Islamic revival, radical Islamic militants, and the broader return of religion around the globe as critical aspects of globalization. This investigation does not so much advance a centralized argument as it acts as a web of possibilities, linking concepts and realities together under a global framework in the hope of positing a broader appreciation of Islam and its evolution vis-à-vis globalization and the normative context within which it lies situated.[8]

Islamism is a heavily contextual phenomenon whose major goal is to articulate and redress the various grievances held by disparate Muslim groups across the Islamic world. Its causes are found within the social and political contexts of different Muslim political actors, not in any textual trap door or scriptural loop hole in Islam.[9] Debates about Islam and its role within the world as it globalizes confront the question of secular modernity and how it interacts with religion and Islam in particular. Radical Islam, of course, conceptualizes itself in opposition to modernity. But most of the Islamic revivalists do not agree with them. Regardless of this diversity, Islam will certainly not recede from globalization's horizons. It is very much a part of its heritage and future, and therefore a crucial strand in the universe of possibilities that awaits the globalizing world.

Conclusion

We can speak a lot about the role of Islamic culture in our social, spiritual life, the development of Islamic culture and arts. However, the main task is to study diligently all these heritages, analyze and contribute to their development. Islam will certainly not recede from globalization's horizons. It is very much a part of its heritage and future, and therefore a crucial strand in the universe of possibilities that awaits the globalizing world. Only by these actions, we can save people from the mass culture that threatens the minds of young people and the negative phenomena in the process of globalization.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 9.035	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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THE CASE OF HEMIFACIAL MICROSOMY IN BLOOD BROTHERS

Abstract: *The aim of this work was to present a clinical observation of a case of hemifacial microsomia in blood brothers who applied to maxillofacial surgery. Patient S. 31 years old. He entered the department of maxillofacial surgery of the city medical association of Samarkand with the aim of obtaining a medical opinion about VTEK. Goldenhar syndrome (oculoauriculo-vertebral dysplasia, hemifacial microsomia, disease of the oculoauriculo-vertebral spectrum) is a rare congenital disease associated with damage to structures emanating from the first and second branchial arches.*

A clinical example indicates the need for a comprehensive examination and a thorough collection of anamnesis of the disease of patients with Goldenhar syndrome for the timely implementation of appropriate treatment and rehabilitation measures and improving the quality of life of children.

Key words: *Goldenhar syndrome, atresia of the external auditory canal, hypoplasia of facial muscles.*

Language: *English*

Citation: Ibragimov, D. D., Mavlyanova, U. M., Gaffarov, U. B., Kuchkorov, F. Sh., & Akramov, H. M. (2021). The case of hemifacial microsomy in blood brothers. *ISJ Theoretical & Applied Science, 09 (101)*, 793-795.

Soi: http://s-o-i.org/1.1/TAS-09-101-115 ***Doi***: crossref https://dx.doi.org/10.15863/TAS.2021.09.101.115

Scopus ASCC: *2700.*

Introduction

The urgency of the problem

Goldenhar syndrome (oculoauriculo-vertebral dysplasia, hemifacial microsomia, disease of the oculoauriculo-vertebral spectrum) is a rare congenital disease associated with damage to structures emanating from the first and second branchial arches [2; eight]. Goldenhar syndrome got its name from the name of the American doctor who first described it in the middle of the last century. Since then, little information has been added about this pathology, due to its rarity and complexity of study, however, thanks to modern technologies, it is not only possible to diagnose it in utero, but also to be effectively treated. There are no domestic epidemiological studies on the incidence of Goldenhar syndrome, but, according to

foreign authors, it ranges from 1/3500 to 1/7000 live births and occurs in 1 case per 1000 children with congenital deafness [4]. The ratio of the disease among boys and girls is approximately 3: 2. The probability of the birth of a subsequent child with this disease is less than 1%, the probability of transmission of the disease to their children is less than 3% [3]. The etiology and type of inheritance are not well understood. Typical signs of Goldenhar syndrome are facial asymmetry and hypoplasia of the lower jaw, microtia and / or ear protrusions, which occur in 100% of cases [7]. In 85% of cases, anomalies are observed on one side, and bilateral lesions are also noted from 10 to 33% of cases. According to the literature, the right side is affected more often [4]. Combined conductive and sensorineural hearing loss occurs in 50% of cases [3].

Purpose of the research

Presentation of a clinical case report of hemifacial microsomia in blood brothers by reference.

Materials and Methods

A case from practice. Patient S. 31 years old. He entered the department of maxillofacial surgery of the city medical association of Samarkand with the aim of obtaining a medical opinion about VTEK. During the collection of the anamnesis, it turned out that in addition to the patient in the family, the younger brother also has the same pathology, for which the parents have not consulted the doctors until now. According to the mother, the children were born on time, by natural birth. On external examination, the elder brother shows a pronounced asymmetry of the face due to hypoplasia of the facial muscles and underdevelopment of the body, the branches of the lower jaw, as well as the temporomandibular joint on the left, aplasia of the auricle and atresia of the ear canal on the left (Fig. 1). The younger brother has a hemifacial microsomia on the left, the auricle on the left was presented in the form of a weakly expressed cartilaginous ridge without a lobe, the auditory meatus is absent, the auricle on the right is deformed, there is a preauricular skin process (Fig. 2).

Results and Discussions

Patient S. in the department underwent a comprehensive examination: ECG: sinus rhythm, increased electrical activity of the right ventricle. Chest X-ray: no focal infiltrative changes were found. Ultrasound of internal organs: liver, gallbladder, spleen, adrenal glands without pathology. General and biochemical blood analysis, general urine analysis without pathology. Ophthalmologist's consultation: no pathology. ENT doctor's consultation: congenital anomaly of the left ear (grade III microtia, atresia of the external auditory canal, grade III hearing loss). On the right, hearing is not impaired. Recommended: observation of an ENT doctor and maxillofacial surgeon. Taking into account the age of patient J., the patient was sent to the regional multidisciplinary children's clinical hospital in the city of Samarkand, with subsequent examination by specialists.

Fig. 1. Patient S. 31 years old. On external examination, the older brother has a pronounced asymmetry of the face due to hypoplasia of the muscles of the face and underdevelopment of the body, branches of the lower jaw, as well as the temporomandibular joint on the left, aplasia of the auricle and atresia of the auditory meatus on the left

Fig. 2. Patient J. 8 years old. a. front view, b. Side view. The younger brother has a hemifacial microsomia on the left, the auricle on the left was presented in the form of a weakly expressed cartilaginous ridge without a lobe, the auditory canal is absent, the auricle on the right is deformed, there is a cutaneous preauricular process

Conclusion

A clinical example indicates the need for a comprehensive examination and a thorough collection of anamnesis of the disease in patients with Goldenhar syndrome for the timely implementation of appropriate treatment and rehabilitation measures and improving the quality of life of children.

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Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
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SOI: 1.1/TAS DOI: 10.15863/TAS

International Scientific Journal

Theoretical & Applied Science

p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)

Year: 2021 **Issue:** 09 **Volume:** 101

Published: 30.09.2021 **http://T-Science.org**

QR – Issue QR – Article

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NATIONAL FEATURES OF THE EXCHANGE OF NAMES INVOLVED IN DIALOGIC DIALOGUE

Abstract: *The article traces the emergence of dialogic dialogue and the study of the exchange of participant names in the form of references in it.*

Key words: *communication, dialogue, name change, nationality, strategy.*

Language: *English*

Citation: Karimova, F. (2021). National features of the exchange of names involved in dialogic dialogue. *ISJ Theoretical & Applied Science, 09 (101),* 796-798.

Soi: http://s-o-i.org/1.1/TAS-09-101-116 ***Doi***: https://dx.doi.org/10.15863/TAS.2021.09.101.116

Scopus ASCC: *1200.*

Introduction

Although the origin of communication dates back to the time when the ability to speak in humankind began, its use as a term dates back to ancient times. It would be correct to say that the first speeches of Greek philosophers that attracted the masses were in a dialogical form. We all know that in history there have been special sermon competitions on rhetoric and public speaking. In this process, subtle dialogues as lively question-and-answer sessions were rationally used to achieve the goal. The preacher used heated speeches - monologues and dialogues - as a means of attracting the masses. First, the use of the term dialogue is associated with the name Zenon. He initially articulated philosophical issues through a form of dialogue. In his works, the terms dialectics and dialogue are used interchangeably. Plato, Socrates and Aristotle also created philosophical dialogues [1, p. 21]. Later, the famous orator Cicero became famous for his dialogue "Orator" and made a worthy contribution to the spread of this genre. Plato's The State was written in the form of a dialogue, with a special focus on Socrates' wise dialogues [2].

The main findings and results

In the history of the Uzbek language, the first dialogical forms of debates and debates created genres such as debate, the linguistic features and artistic value of these genres are still preserved. Among them are "Winter and Summer Discussion" in M. Kashgari's "Devonu Lugotit Turk", "Bang and Chogir" by Yusuf Amiri, "Discussion of Words" by Ahmadi, "Arrow and Bow Discussion" by Yakini [3, p. 34].

In all the epics of A. Navoi's "Khamsa" we encounter dialogic sentences. Undoubtedly, the most famous of them is the dialogue of Farhod and Khisrav in the epic "Farhod and Shirin". The deep content and ingenuity in it are the lines that show the great talent of the genius poet in the language and art of our people and show the simple and intelligent aspects of the Turkish language. However, in this dialogue, one can observe the application of a method called 'speech strategies', in modern linguistic terms. The word "strategy" is Greek and means "stratos" - army, troop, "ago" - to lead, lead, follow. In linguistics, this phrase is used as a way to achieve the communicative purpose of the speaker [4, p. 35].

"*Dedi: Qaydin sen, ey Majnuni gumrah?*
Dedi: Majnun Vatandin qayda ogah?
Dedi: nedur senga olamda pesha?
Dedi: Ishq ichra majnunluq hamesha.
Dedikim, ishq o'tidin de fasona?
Dedi: kuymay kishi topmas nishona... [5, p. 323]"

He said, "Where are you from, you lover?"
He said: Where is the madman who knows his homeland?
He said: What is your profession in the world?
He said: Lovers is always in love.
I said, love is in the style.

He said: "No one can find a sign without burning ..."

The *majnuni gumrah* combination in the form of an appeal applied to Farhod in the passage can serve as an example of the exchange of names, and it serves as a peculiar stylistic dye and carriage. This exchange is associated with the reluctance of Khisrav to recognize him as a rival without using the name Farhad. In the method of answering the question in the conversation with a question, Farhod expresses the fact that if he is insane, he must have the characteristics of a madman, with a certain wit, in a way of beating the interlocutor, dulling. In this unique dialogue, we witness the skillful use of the interlocutor's method of overcoming the debate by not avoiding the focus of the question, but by bypassing it or giving the wrong answer. In both examples of historical language and literature, as well as in today's oral and artistic discourse, dialogic speech and its vivid expression are the most appropriate method of revealing the spiritual world of the interlocutors and its purpose.

According to anthropocentric theory, in a dialogic dialogue, national and cultural features are also evident in the exchange of names of participants. Because the dialogue is a lively conversation, there is no limit to the language and non-linguistic knowledge of the participants. Through the participants' speeches, information about the worldly knowledge to which they belong; national-cultural, spiritual-social, intellectual and life experiences. The fact that the form of the address of the meeting of the participants is directly related to the nationality can be seen in the following example:

Sentyabrning oxirlarida G'aribning o'qituvchisi – kuykanakkina juvon eshik qoqib keldi. Uzoq hol-ahvol so'rashishidan va "oling-oling" qabilidagi manziratlardan so'ng, o'qituvchi:

– G'aribjon qayda, ovsin? Bir gaplashib olay degan edim, – dedi.

– Bilmasam, - dedi u elka qisib.

– Menga aytmaydi, allaqaerlarga borib keladi. Kechqurun qaytadi, - dedi shikoyatomuz ohangda. – Nima, tag'in "ikki" oldimi? [I.Sulton. Munojot]

At the end of September, a stranger's teacher, a young woman, came knocking on the door. After a long questioning and "take-it-or-leave-it" remarks, the teacher said:

"Where's the stranger?"| I wanted to talk to you.'

"I don't know" he said, shrugging.

"He won't tell me; he's going somewhere". He'll be back in the evening, said our complainer. "Did he get two again?"

The *ovsin* (sister-in-law) applied form used by the teacher in the excerpt from the dialogic speech cited served as the initial step in the teacher's engagement with the student's mother. In the speech of the teacher and the mother of the student, the forms of appeal that brought them spiritually closer, such as ***sister*** and ***sister-in-law***, served as a strong link in the semantic connection of the dialogic passages. We can also see in the passage quoted that the use of these forms of appeal has been helpful in mitigating the situation and creating a cordial atmosphere.

Onaizor umidvor ko'zlarini juvonga tikib:

Endi nimaqildik-a, singlim? – deb so'radi.

– Siz ko'nglingizni tinch qiling, – dedi o'qituvchi. Men undagi o'zgarishlarning boisi nima ekanligini bilgani keluvdim, xolos. [I.Sulton. Munojot].

The mother stared hopefully at her:

What are we doing now, sister? He asked.

"You calm down", said the teacher. I just wanted to know what the reason for the change was.

According to Uzbek national and cultural traditions, women often address women who are not strangers or relatives to express sincerity, such as ***sisters, brides, egachi, aunts,*** depending on their age [6, p. 140].

– Mening ichimdagi bor gap shunda ekan, – so'zlanardi g'arib. – O'qib g'alati bo'lib ketdim.

– Aytmoqchi, o'qituvchimiz keldimi?

– Sen qaydan bilding? – so'radi ona.

– Bildim-da... Boya uyimizni so'rovdi.

– Hoy, o'tning yurganini qayda ko'ruvding? – dedi ona. – Opangni rosa xafa qipsan-ku? Shuncha bergan darslarim kor qilmabdi, deb ketdi. [I.Sulton. Munojot].

"That's what's inside me", said the Stranger. - I was strange to read.

"By the way, did our teacher come?"

"How did you know?" Asked the mother.

"I know ... The boy asked about our house".

"Hey, where did you see the grass walking?" He said to her. "Are you upset with your sister?" He went on to say that the lessons I had taught were not blind.

In the above-mentioned dialogic passages, in addition to his communicative message through the speaker, non-verbal knowledge about him; we can also find out their worldview (simple, sincere), social level (being in the role of mother), experience (asking for advice: *What did we do now, sister*?) and mental state (anxious, worried). It is also possible to understand that the mother wants to teach her child to be as close to her teacher as a nurse, not to upset her (she reads well in the background). As we observe the exchange of names in the *Sister* style, the reference to such a teacher also gave rise to the content of the message about the peculiarities of national upbringing. Literary scholar I. Haqqul said: "Word educates a person. The word reflects all the positive and negative qualities of a person" [7, p. 4].

Especially in the Uzbek language, which is full of national upbringing, we can see through many examples that the images of women and men in the social roles of the participants gain respect, softness and firmness. W. von Humboldt's views on the national spirit and the national language, "Every

language possessor has the national spirit of that language" [8, p. 93], have not been proven for centuries. Numerous scientific works devoted to the study of the Uzbek dialogue text have studied one or another aspect of the issue. The monographs of such scientists as A. Hazratkulov, B. Urinbaev, Sh. Iskandarova, S. Muminov cover in detail the forms of speech and communication, their socio-linguistic aspects [9].

Conclusion

In the study of the process of communication, the weight of national language and social views automatically moves to the forefront. This situation can be seen in the exchange of names of participants. This increases the interaction of language with the fields of sociology and psychology. Today, the integration of social spheres is a requirement of the time in the development of linguistics. For this reason, intermediate fields such as linguopsychology, linguopragmatics, linguosociology, linguoetnology, linguoculturology are developing.

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Signed in print: 30.09.2021. Size 60x84 1/8

«Theoretical & Applied Science» (USA, Sweden, KZ)
Scientific publication, p.sh. 50.375. Edition of 90 copies.
http://T-Science.org E-mail: **T-Science@mail.ru**

Printed «Theoretical & Applied Science»