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Л.Н. ГУМИЛЕВ АТЫНДАҒЫ ЕУРАЗИЯ ҰЛТТЫҚ УНИВЕРСИТЕТІ

МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РЕСПУБЛИКИ КАЗАХСТАН
ЕВРАЗИЙСКИЙ НАЦИОНАЛЬНЫЙ УНИВЕРСИТЕТ ИМЕНИ Л.Н. ГУМИЛЕВА

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"ЖАСЫЛ ЭКОНОМИКАҒА" КӨШУ ЖАҒДАЙЫНДА ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ТҰРАҚТЫ ДАМУЫ: ЕУРОПАЛЫҚ ОДАҚ ЕЛДЕРІНІҢ ТӘЖІРИБЕСІН ҚОЛДАНУ"

ХАЛЫҚАРАЛЫҚ ҒЫЛЫМИ-ТӘЖІРИБЕЛІК КОНФЕРЕНЦИЯСЫНЫҢ

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ASSESSMENT OF THE STATE OF SALINE SOILS

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Introduction. Due to the rapid population growth and rapid economic development, humanity's food and resource demand is growing.

The state and the environment are constantly improving. As a result, important environmental problems such as land deficit conflict, biodiversity drainage and land degradation have become a major problem for mankind.

Satisfaction of the growing demand for food, resources and the environment has been a long-term objective of the entire society and the academic community. For this purpose, scientists have worked in a variety of fields: productivity gains for food production. One of the big successes in this direction is the use of genetic engineering to grow high-yield crops, and gradually its great potential is evident. The achievements of science and technology are aimed at eliminating food deficit, opening up new sources of energy, resource conservation, and environmental protection. The daily increase in the negative effects of polluting the environment and threatening human health is a serious problem.

Increased productivity is always limited and difficult to solve resource constraints by increasing productivity. Nowadays, desertification is one of the environmental problems. In this context, scientists have become increasingly interested in the widespread use of salty soil such as saline soils.

According to the current statistical data, the total amount of salt in the world is about 9.5 × 106km2, which is equivalent to the size of China [7].

Salty soils limit the growth of many plants due to the poor physical and chemical properties, and land degradation has become a major topic for a long time.

However, recent studies have shown that halophytic plants are grown in saline soil. More than 2,600 species of plants are now fully represented in saline soils. [2]

An important part of the biological diversity of the Earth and the valuable source of genetic resources is the natural flora. They are the basis for improving and utilizing saline soils, preserving the ecological balance of saline soils, stopping desertification and stabilizing soil.

The biodiversity and biological diversity of the earth's biodiversity is highly pragmatic, and many of the halophyte's economic value and high potential for development. In this context, biodiversity of saline soils provides humanity with special resources. Specific classes of halophytic plant species widely spread across the globe become rare treasures of genes that are hard to achieve for humanity [4].

The emergence of saline soils is a crucial step in resolving conflicts between population growth and resource deficit [3].

Of course, biodiversity conservation, desertification prevention and increased food production are the fundamental solutions to the problem of ecological problems that cause resource deficit.

The Aral Sea region is the largest area of saline soils in Kazakhstan and is known to be one of the world's ecological problems. The future economic development of this region is linked to many halophytic plants that are potential resources [5].

The catastrophe caused by the desertification of the Aral Sea has greatly contributed to the production and ecology. Halophytic plants are the basis of the process of land degradation, which can therefore be a solution of Aral ecology.

Recognizing, understanding, developing and utilizing halophyte resources in Kazakhstan, following the ongoing development of the West, is the cornerstone of Kazakhstan's future economic development and environmental governance. The study of biological diversity of halophytic plants in Kazakhstan also provides basic information on the creation of a halophytic resource database in the world. Therefore, the study of halophytic plants in Kazakhstan not only promotes the rich natural resources of halophyte, but also the development of the Aral Sea, even the whole of Kazakhstan, the development of regional economic conditions, social prosperity and ecological development will have great influence.

These studies also provide a great deal of information about halophytic plants.

Salty soils in the world have the following picture. Salty soils are a widespread soil type.

Salt soils are found in solonchaks, soils, brown forests, steppes, dry steppes and deserted steppes. Solonchak soil contains chlorides, sulphates, sodium, calcium, magnesium and carbonate. In contrast to the soils and solonetzic soils, there are no salts quickly dissolving in the surface of the soils. With the advent of natural conditions, rapidly soluble salts of soils on the soil surface have been washed away from the soil surface and passed into the lower soils. As a result of such treatment, the sodium cation in the salts is absorbed into the soil. When dry soils do not allow them to spray and process, moisture does not turn into a true mud layer and do not water. As a result of these unpleasant physical properties, plants here are not grown and produce. Solonaceae is a soil saline (strongly salted), saline solonetz, and it is useless to use them for agriculture unless the soil is manually refined [6].

Salty soils are 51% of 222 countries and regions of the world, with 21 countries and regions with saline soils exceeding 10% of the land area. The most common soil saline soils are in Asia, Africa, South and North America.

Table 1 lists the countries with saline soils and saline soils in the world [1].

Table 1. The world's most common saline soils and saline soils

Distributed area	Total area / 10^3 km^2	Salty soils / 10^3 km^2	Share in total area /%	Distributed area	Total area / 10^3 km^2	Salty soils / 10^3 km^2	Share in total area /%
China	9550	750	8	India	3157	225	7
Sri-Lanka	65	6	9	Kuwait	24	2	8
Iran	1643	275	17	Iraq	438	61	14
Qatar	11	2	18	Kazakhstan	2715	1286	47
Turkmenistan	487	90	19	Uzbekistan	446	109	24

Mongolia	1560	241	15	Pakistan	802	159	20
Botswana	599	72	12	Djibouti	23	10	44
Kenya	582	83	14	Somali	627	90	14
Tunis	164	18	11	Egypt	1001	91	9
Argentina	2772	516	19	Chili	749	83	11
Paraguay	407	173	43	Brazil	128	12	9
Canada	9893	68	1	America	9344	123	1
Australia	7667	1580	21	Hungary	93	23	25
Moldova	34	9	27	Ukraine	602	102	17
Former Yugoslavia	128	12	9	World wide	134 907	8369	6

As you can see from the table, 47% of the land area of Kazakhstan is salty soil. Indeed, salinization of the soil is a worldwide resource and environmental problem. Only salty soils are still growing in the world when saline soils are not taken into account. According to statistics, the total area of the land in Pakistan is $2{,}333\times10^4 km^2$, and in a few years the saline soil salinity has reached $3{,}53\times10^3 km^2$.

Every year in Syria, about $2\times10^2 km^2$ will be recycled as a result of salinization. In America every year, about $8\times10^2 \sim 12\times10^2 km^2$ new saline soils are added. According to statistical reports from the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO), about 50% of the global irrigated land suffer from various degradation. Every year, $1\times10^5 km^2$ of land is not suitable for salinization of secondary soil [8].

From the point of view of separation, salty soils in the world are concentrated in coastal areas with extreme economies in Africa, Asia, Australia, South America, and green areas with droughty, semi-dry areas. Due to the increase in irrigation, the potential for re-salinization of the soil is very high, and the area of newly salinized soils in the agricultural irrigation area is increasing.

Conclusion. The prevalence of saline soils in Kazakhstan is one of the big problems today. According to United Nations statistics, the amount of saline soils in Kazakhstan exceeds $12.86\times10^5 km^2$. Although the results of various statistical materials vary considerably, Kazakhstan has a very wide range of saline soils.

Salt soils can become less dangerous soil, which can endanger biodiversity and endanger human life.

The occurrence of such a situation can cause great harm to humanity and ecology. However, salty soils are a special type of soil on the globe, and they are considered to be totally irreplaceable landscapes. While there are few species of halophytic plants, they are an important part of the earth biology and are valuable genetic resources for adaptation to the saline environment.

Halophyte plants are not commonly used in the traditional agricultural system, but associated with the development of science and technology, they become valuable genetic resources, and many halophytic plants gradually become the basis of saline soils. These studies are valuable in offering high quality human food and high quality food and valuable medicines and other products.

Thus, the main purpose of our research is to demonstrate the need for research into the transformation of saline soils into fertile soil.

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ВЛИЯНИЕ ФАРМАКОЛОГИЧЕСКИХ ЗАГРЯЗНИТЕЛЕЙ НА ЭКОЛОГИЧЕСКОЕ СОСТОЯНИЕ СТОЧНЫХ ВОД В УСЛОВИЯХ ГЛОБАЛИЗАЦИИ

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Фармацевтическая деятельность берет свое начало со второй половины XVII века. Первой фармацевтической компанией считается немецкая торговая марка Merck, которая снабжала европейский рынок группой алкалоидов. Со временем компания раширила свое географическое присутствие по всему миру. Так, образовался новый вид деятельности человека, целью которой является: «насыщенность внутреннего рынка современными, эффективными и генетически безопасно спроектированными биологическими препаратами».

Развитие данной отрасли способствовало улучшению состояния здоровья людей, однако, со временем экологи начали отмечать и сокрушительный вред данной сферы окружающей среде.

Так, Прожерина Ю.отмечает: «Первые упоминания о присутствии лекарственных средсв в окружающей среде встречаются в ряде научных публикаций 1965-1976 гг., в которых была затронута проблема загрязнения сточных вод» [1]. Далее, через десят лет аналогичные проблемы были рассмотрены в Англии, Канаде. И только к середине 90-х годов XX века исследователи по всему миру начали приравнивать данную проблему к экологическим катастрофам глобального масштаба. Так как присутствие фармацевтических осадков было отмечено практически во всех экологических природных системах.

Именно в этот период, наряду с резким ростом производства фармации в связи с увеличением спроса на медикаменты произошел скачок к разработке и применению аналитических способов выявления следов лекарственных средств. К таковым возможно отнести:

- Высокочувствительная хроматография
- Высокоселективная хроматография
- Масс-спектрометрия

Этот период ознаменовался не только развитием производства и ростом потребления лекарств, но и активным внедрением новых аналитических методов, в частности, позволяющих выявлять даже следовые количества медикаментов».