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**ВЛИЯНИЕ ХОЛОДНОЙ СТРАТИФИКАЦИИ И ГИББЕРЕЛЛОВОЙ КИСЛОТЫ НА  
ВСХОЖЕСТЬ СЕМЯН АЛЛОХРУЗЫ КАЧИМОВИДНОЙ *ALLOCHRUSA*  
*GYPSOPHILOIDES* (REGEL) SCHISCHK.**

**Аннотация**

Выявлено, что эффективными факторами, повышающими всхожесть семян аллохрузы качимовидной, является их холодная стратификация и экзогенная обработка гибберелловой кислотой. Стратификация семян в условиях жидкого азота (криоконсервация) способствует синхронизации процесса прорастания и повышает чувствительность семян к стимулирующему действию ГК. Комбинирование холодной стратификации с обработкой ГК позволяет сохранить средний показатель всхожести на уровне 26,8 % в течение хранения с максимальной всхожестью семян 45 % к концу срока депонирования.

**Ключевые слова:** аллохруза качимовидная, туркестанский мыльный корень, семенная всхожесть, холодная стратификация, криоконсервация, гибберелловая кислота.

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**INFLUENCE OF COLD STRATIFICATION AND HYBBERELIC ACID ON SEED  
GERMINATION OF *ALLOCHRUSA GYPSOPHILOIDES* (REGEL) SCHISCHK**

**Abstract**

The cold stratification and exogenous treatment with gibberellic acid (GA) are the effective factors to increase the germination of *Allochrusa gypsophiloides*. Stratification under conditions of liquid nitrogen (cryopreservation) allows synchronizing the germination and increasing the seed sensitivity to the stimulating GA effect. Combination of cold stratification with GA treatment allows maintaining an average germination 26.8% with a maximum 45% at the end of the cryopreservation.

**Keywords:** *Allochrusa gypsophiloides*, Turkestan soaproot, germination, cryopreservation, gibberellic acid.

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**LAND TRANSFORMATION IN THE CONDITIONS OF MARKET RELATIONS IN THE  
REPUBLIC OF KAZAKHSTAN**

**Annotation**

Among all the riches that a person owns, the most valuable is undoubtedly the land. The land is the source of our strength and our wealth. Our well-being depends on how we protect it, how skillfully and economically we manage it. Land legislation plays an important role in addressing issues related to the rational use of land. The land problem not only has a legal and economic side, but it is also associated with a lot of political storms and social upheavals. And this is understandable, because the earth, with its soil cover, occupies a certain place among the material conditions necessary for human life.

**Key words:** land relations, land reform, private property, market economy, land tenure, land use, land degradation, increasing soil fertility.

### **Introduction**

In the words of the great English economist William Pitti, labor is the father of wealth, the land is his mother. The ongoing processes of reforming the political and economic system in the Republic of Kazakhstan put forward the need for a radical change in land relations, land reform under the direct management and control of the state. Land reform takes a special place in structuring the economy. It affects the interests of every citizen and society as a whole.

The accumulated experience of many countries shows that without the improvement of land relations and their state regulation, other economic transformations do not yield the expected results. The importance of land reform is great, that is why the urgency of the issue of the essence of land relations is growing especially in the conditions of forming a mixed economy, radical breaking of stereotypes and ideas about labor motivation, the emergence of new approaches to the property category. Property is a factor that in itself obliges to invest the mind, knowledge, resources, resources to maintain and increase fertility, maintain and equip the land, protect it from degradation, which in the end is the real wealth of the country and society. Land reform is the core of economic transformation, and its direction determines the attitude towards the land.

### **Materials and methods**

Changes in the political and economic situation in the post-Soviet space, including Kazakhstan, required radical changes in all spheres of the life of the state and society. First of all, for these transformations, a corresponding legal basis was necessary, which legislatively determined the goals and objectives of all spheres of reform, the terms, forms and methods, and the conditions for their implementation. This process also touched upon land reforms.

The implementation of the land reform was designed for several stages. The main goal of land reform of the transition period to the market is the transformation of land relations in order to create legal, economic and social conditions for the effective functioning of various forms of management on the land, ensuring the rational use and protection of lands and achieving on this basis a stable increase in the production of agricultural products. Legislatively it was stipulated to ensure the right of every citizen and collective to voluntarily choose the forms of land tenure, land use and economic activity on the land.

Legal acts of different levels began to be adopted at the very beginning of the reform - from the beginning of 1990, and as the reforms, changes in social relations and the need for improving their regulation were developed, new acts were adopted, that is, constant replenishment of the number and improvement of the legal content of the current legislation. In certain acts there were certain gaps, contradictions and other shortcomings, but they were regularly eliminated. Consequently, the legal basis of land reform has been systematically strengthened, "catching up" with practice, life, social relations. Therefore, one can not agree with those who are trying to overrule many of the shortcomings and progress of the land (and agrarian reforms) reform into weakness, sufficient inadequacy of its legal framework, which generally ensured the implementation of the reform, otherwise it would not have been possible at all.

In order to eliminate the existing contradictions and conflicts in the current legislation, to keep up with the times in the implementation of land reform, it was necessary to legislate to ensure real rights to land, at the constitutional level, to ensure the functioning of private ownership of land, which was done by the Constitution of the Republic of Kazakhstan from August 30, 1995: in article 6 states that "the land and its bowels, waters, flora and fauna, other natural resources are state property. Land can also be privately owned on the basis, conditions and within the limits established by law" [1].

The above confirms that the land legislation was improved as necessary for the settlement of certain aspects of land relations in a market economy, and the process of transition to private property was gradual, which once again confirms our conclusion that land reform in Kazakhstan was carried out with increasing speed [4].

Proceeding from the goals and objectives of this or that stage of land reforms, the development of land relations in Kazakhstan, beginning with the acquisition of sovereignty and independence, can be conditionally divided into five stages, each of which is unique in its own way, on which the problems inherent in this stage were solved, set goals and objectives.

The land reforms began in the four laws adopted in the years of the beginning of economic reforms. These are such laws as the law "On the Peasant Economy", "Land Code", "On Land Reform", "On Land Tax". As a result of their implementation, the first stage of the reform, which falls on 1990-1993, was launched and passed. As the main conditions for the implementation of land reform at this stage was the following:

- formation and development of land and other market legislation, which is the legal basis for land reforms;
- ensuring the right of every citizen and collective to voluntarily choose the forms of land tenure, land use and economic activity on the land;
- taking into account regional peculiarities of land use.
- compliance with the requirements of protection of lands, forests, flora and fauna and other natural resources.

The main directions of the land reform of the first stage were:

- creation of a special land fund of local authorities with a view to its subsequent redistribution in the interests of more effective land use;
- the transfer of a part of the land from a special fund to the jurisdiction of city authorities for agricultural production;
- provision of land for lifelong inheritable possession of citizens of Kazakhstan for farming and personal subsidiary farming, livestock, horticulture, construction and maintenance of a dwelling house, country house building, traditional folk crafts and crafts;
- land redistribution in cases of conversion of collective farms, denationalization and privatization of state farms and other state agricultural enterprises;
- establishment and specification of the boundaries of rural settlements and their land and economic structure;
- registration and re-registration of documents for the right to own and the right to use land plots.

The second stage of the development of land relations (1994-1995) is connected with the preparation for the transition from exclusive state ownership to private ownership of land.

The third stage began with the adoption of the Constitution of the Republic of Kazakhstan of August 30, 1995 and the Decree of the President of the Republic of Kazakhstan, which has the force of law, "On Land" of December 22, 1995.

As a consequence, the composition of the subjects of land legal relations and the structure of land use have changed fundamentally in the republic.

The share of land that is in the land use of state legal entities has significantly decreased, thereby the state's monopoly on land has been eliminated, and prerequisites have been created for the further development of the land market in the country.

In order to implement certain provisions of the Decree "On Land on June 6, 1996 №709, the Resolution of the Government of the Republic of Kazakhstan" On Measures to Accelerate Land Reform "is adopted [5].

According to this document, it was stipulated that the akims of oblasts, the State Committee of the Republic of Kazakhstan on land relations and land management, the Ministry

of Agriculture of the Republic of Kazakhstan are obliged to accelerate the work on personifying land shares in agricultural enterprises and organizations and complete before September 1, 1996 the issuance of certificates of the right to Land shares of members of the collective farms that are being liquidated or reorganized, employees of the state agricultural non-governmental-organization in, as well as pensioners and persons engaged in the production and socio-cultural spheres of service data farms, and living on their territory, have the right to set out in accordance with the legislation of the conditional land share.

Along with the aforementioned, the State Committee of the Republic of Kazakhstan on land relations and land management during 1996-1998 was obliged to ensure the issuance of land ownership and land use rights to owners of land plots, the right of permanent land use [6].

To further improve the land legislation, which was aimed at securing land rights, expanding the institution of leasing relations and collateral transactions, securing the registration of land rights, the Land Act of January 24, 2001 was adopted, which was the beginning of a new stage in the implementation of land reform.

The law of the Republic of Kazakhstan "On Land" regulated the issues of granting land to the participants of the condominium. Documents for land were issued and issued to 14.1 thousand condominiums [6]. The definition of the boundaries of land plots granted to the owners of the premises (participants) of the condominium is currently carried out with the participation of cooperatives of apartment owners, taking into account the actual development and requirements established by town planning and other documentation, to the territorial development of the settlement. At present, the task is to determine the share of each participant in the condominium in common ownership or general land use without distinguishing it in kind.

At the initial stage of denationalization, the objects of state property were privatized without registration of land rights, therefore, at present, when registering rights to land plots, it is necessary to clarify the occupied areas for existing facilities, as well as formalize the repurchase (lease) of land plots from the state.

In order to create the most favorable conditions for the rational and effective use of land, attract investment, stimulate the receipt of additional funds in the budget, ensure transparency in the allocation of land, and provide solid guarantees to protect the rights of investors, in our opinion, it is necessary to organize land auctions and competitions. On the sale of land plots in the ownership or land use, the conduct of which is regulated by legislation of the Government of 10 Dec 1996, No. 1511 "On Approval of the Procedure for the Purchase and Sale of State-Owned Land Plots or the Right of Permanent Land Use" [7].

In the President's Address to the people of Kazakhstan for 2003 it was noted that "it is necessary to bring to the logical end the reform of economic, primarily land and water relations. We must admit that the recently passed Land Law did not advance the country to a civilized market. And if we have made mistakes together, let's quickly correct them, correct this law. The cornerstone of this law should be the answer to the vital question: "Is private ownership of agricultural land necessary? Answering this question, we tend to slide down to the philistine thesis - "we sell the Motherland", not understanding at the same time that private ownership of the land is, first of all, the confidence of the peasant that his land will not be taken away. Ownership of the land is motivation for its arrangement, so that it has something to convey to its children.

Land without a master is an orphan. An ecological catastrophe overtakes just the no-man's land [8]. On the instructions of the President of the country, a draft of the Land Code of the Republic of Kazakhstan was prepared, which went through a difficult path before it was adopted. On June 20, 2003, it was adopted by the country's Parliament, from which a new landmark in the implementation of the land reform of sovereign Kazakhstan begins [9].

*Before the LC RK, the following tasks of land reform are currently in place:*

*Firstly*, to realize the main goal of agrarian policy, namely, to ensure the transfer of land from agricultural land to private ownership;

*Secondly*, to complete the actual personification of conditional land shares in agricultural organizations;

*Thirdly*, to ensure the technical registration of the boundaries of land plots granted (granted) to citizens and legal entities, with the issuance of appropriate documents for land for subsequent state registration of land rights in the justice bodies;

*Fourthly*, the development of regional zoning schemes for cities, in order to establish zones with different order and regime of land use and their taxation, inventory of arable lands for toughening conditions and stimulating the economic process of removing from processing low-productive and unpromising lands;

*Fifthly*, the creation of a unified automated system of the state land cadastre and a land monitoring system;

*Sixthly*, creating conditions for the development of the market and the mortgage of land;

*Seventhly*, the improvement of the system of state registration of land rights and transactions with land [10].

Summarizing the study and analysis of the legal nature of land reforms in Kazakhstan, we came to the following conclusions:

Land reform is an integral part of the whole system of economic and other transformations in this or that society, caused by objective reasons. These include the causes of economic, social, political nature.

Land reforms often occur during periods of major social upheavals - revolutions, coups, changes in socio-economic formations. In most cases, they are aimed at changing the land system of a state, because the question of land has always been and will be a political issue, because It is directly connected with the decision of a question on the government. Therefore, the solution of this issue presupposes a radical transformation of existing land relations.

The implementation of land reform requires state intervention in the form of a large concentration of power, because the land issue affects the interests of all and all, therefore, an appropriate system of public administration is required that can apply measures of state coercion and (or) encouragement. In other words, land reform is accompanied by the creation of a quality renewed or improved old system of state regulation of land relations. This pattern can be traced to the example of recent events in Kazakhstan, when the decision of this issue affected all branches of state power - both legislative, executive, and judicial.

Implementation of cardinal economic transformations requires appropriate legal support. Therefore, land reform can not be considered only as a socio-economic phenomenon, in isolation from the reform of the entire system of legislation that ensures its implementation. In other words, the right, representing a "concentrated expression" in this case of the state's land policy, is the main instrument for its implementation. On the basis of the foregoing, the author believes that the concept of "land reform" should be viewed as a complex and multifaceted phenomenon that can be characterized as categories of political, economic, social and legal order. As experience of land reforms in Kazakhstan shows, they pursue, first of all, the purpose of land redistribution. In modern conditions, this thesis is clearly visible on the example of the current privatization of agricultural land.

According to some economists, from this point of view, reforms can be compensatory, in which former owners receive certain compensation, or expropriation, in which part or all of the lands of former owners are withdrawn for free [11].

One should also agree with the view that the transformations in post-socialist economies, including in Kazakhstan, are a separate type of reforms requiring a sufficient theoretical interpretation both in the economic, sociological, and legal aspects. For the clearly dominant

goal of these reforms is the goal of changing and improving the effectiveness of the developing land system, and economic growth in general. "In terms of social equality, the reforms in these countries lead absolutely to the opposite result. If within the framework of a centrally planned economy all agricultural organizations were equally separated from the land, the formation of a private landowner in agriculture leads to inequality: some citizens get rights to land, some do not. At the same time, neither the method of reforming nor the existence or absence of a state monopoly on land during the socialist period are of any importance"[11].

Land reform, conducted in our country, can not provide, and in general, initially was not aimed at ensuring social equality. And the reason for this is the existence of special conditions, namely, market levers and mechanisms of management on the land. Unfortunately, the attempt of equal distribution of land between members of former collective farms and state farm workers, unfortunately, did not bring positive changes, which led to an objective need to raise the issue of sale, rather than the free transfer of agricultural land to private ownership.

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### ҚАЗАҚСТАН РЕСПУБЛИКАСЫ ЖЕРЛЕРІНІҢ НАРЫҚТЫҚ ЖАҒДАЙДАҒЫ ӨЗГЕРУІ

Біздің елімізде жүргізіліп жатқан жер реформасы әлеуметтік теңдікті қамтамасыз ете алмайды. Оның басты себебі болып ерекше жағдайлар, атап айтқанда нарықтық қатынастар және жерге иелік ету механизмдері табылады. Бұрынғы колхоз, совхоз жұмыскерлеріне жерді тең дәрежеде бөліп беру тәжірибесі оң нәтиже бермеді, осыған байланысты ауылшаруашылық мақсатындағы жерлерді жеке меншікке ақысыз беру тиімсіз болғандықтан жерді сатуға қажеттілік туындады.

**Түйін сөздер:** жер қатынастары, жер реформасы, жеке меншік, нарықтық экономика, жер меншігі, жерді пайдалану, жердің тозуы, құнарлылығын арттыру.

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## ЗЕМЕЛЬНЫЕ ПРЕОБРАЗОВАНИЯ В РЕСПУБЛИКЕ КАЗАХСТАН В УСЛОВИЯХ РЫНОЧНЫХ ОТНОШЕНИЙ

Земельная реформа, проводимая в нашей стране, не может обеспечить, и в целом изначально не была нацелена на обеспечение социального равенства. И причиной этому является наличие особых условий, а именно рыночных рычагов и механизмов хозяйствования на земле. Попытка уравнительного распределения земель между членами бывших колхозов и работниками совхозов, к сожалению, не дала положительных сдвигов, что привело к объективной необходимости ставить вопрос о продаже, а не о безвозмездной передаче земель сельскохозяйственного назначения в частную собственность.

**Ключевые слова:** земельные отношения, земельная реформа, частная собственность, рыночная экономика, землевладение, землепользование, деградация земель, увеличение плодородия.

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## УРОЖАЙНОСТЬ СОРТОВ ПОДСОЛНЕЧНИКА ПРИ РАЗНЫХ ТЕХНОЛОГИЯХ ПОДГОТОВКИ ПОЧВЫ

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### **Аннотация**

В данной статье представлены результаты по формированию урожайности сортов подсолнечника при разных технологиях подготовки почвы в условиях темно-каштановых почв Северного Казахстана. За годы исследований более высокие показатели урожайности обеспечили варианты с применением технологий подготовки почвы «минимальная I». На данном варианте урожайность семян составило - 13,9-21,1 ц/га, что превысило контрольный вариант на 0,6-2,1 ц/га и остальные изучаемые варианты на 0,2-3,0 ц/га.

**Ключевые слова:** подсолнечник, урожайность, структура урожая, технология подготовки почвы.

### **Введение**

Последние десятилетия в Казахстане отмечается устойчивая тенденция расширения посева и производства масличных культур. Посевные площади масличных культур в 2016 году достигали более 2 млн га. Основные площади были засеяны подсолнечником – 807,5 тыс. га. Подсолнечник сеют в крупных хозяйствах по несколько тысяч гектар и в мелких крестьянских хозяйствах по несколько десятков гектар[1].

Урожайность семян подсолнечника в советское время была в среднем на уровне около 10 ц/га. В первый период независимости (1992-1997гг.) она упала до 2-3 ц/га, в 2001-2007гг. она выросла до уровня 6 ц/га. После этого в 2008-2011гг. она упала до 5 ц/га. Общее снижение урожайности подсолнечника можно объяснить тем, что в советское