The project title: «Introduction of the gene pool of the grass pea for the actualization of cultivation in Northern Kazakhstan».

Актуальность:

In breeding, it is of great importance to constantly and comprehensively study the samples of the world collection, patterns and features of their behavior in local conditions. And the formation of the grass pea gene pool will expand the range of leguminous crops for cultivation in the harsh conditions of Northern Kazakhstan, which makes the focus of our research particularly important.

In connection with the growing demand for vegetable protein for the food and feed industry, many countries, including Kazakhstan, are faced with a choice: how to fill the deficit of vegetable protein - to produce or import? There is no single political or technical solution. A systematic approach is needed, development will depend on a system of well-designed complementary measures.

In the future, agriculture will rely on a variety of crops to maintain a balanced environment, with limited use of chemicals. The use of unique biological features, the development of high-yielding varieties of leguminous crops, adapted to specific cultivation conditions, and new technologies will solve the problems faced by agricultural production.

The social effect of the project is that the introduction of a new leguminous crop (rank) will contribute to the creation of additional jobs among the population in rural areas, in the field of growing crops for fodder and food purposes.

Project objective: Replenishment and comprehensive study of the genetic resources of the grass pea crop to identify valuable sources and use them in breeding programs.

As a result of the implementation of the scientific project, the following results will be obtained: At least 1 (one) article included in the Science Citation Index Expanded or Social Science Citation Index in the Web of Science database and (or) having a CiteScore percentile in the Scopus database of at least 35 (thirty five).

Scope and target consumers of each of the expected results: agricultural producers, farmers engaged in the cultivation of leguminous crops for fodder and food purposes. The results of scientific research obtained during the implementation of the project can be used to develop a strategy for the development of the agro-industrial complex in the face of climate change and increase the sustainability of agriculture.

The introduction of the most productive varieties of leguminous crops into modern production will speed up the solution of the problem of proper nutrition, strengthening the fodder base, increasing soil fertility, and economic and social sustainability of the agricultural and industrial sectors.

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1. Yuri Shavrukov, Aibek Zhumalin, Dauren Serikbay, Makpal Botayeva, Ainur Otemisova, Aiman Absattarova, Grigoriy Sereda, Sergey Sereda,Arysgul Turbekova, Vladimir Shvidchenko, Satyvaldy Jatayev, Sergiy Lopato, Kathleen Soole и Peter Langridge. "Expression Level of the *DREB2*-Type Gene, Identified with Amplifluor SNP Markers, Correlates with Performance, and Tolerance to Dehydration in Bread Wheat Cultivars from Northern Kazakhstan", Журнал Frontiers in Plant Science (18 ноября 2016 года, № 7, страница 1-9, Швейцария),CiteScore 2018 – 4.47, Percentile 95; Количество цитирования: WebofScience - 12,Scopus - 10;(DOI: 10.3389/fpls.2016.01736).

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List of publications and patents published in the framework of this project: (with links to them):

A scientific article has been published: Turbekova A.S., Oshergina I.P. and Ten E.A. Productivity of the sowing ranch in the dry steppe zone of Northern Kazakhstan. // IV International Scientific and Practical Conference "SCIENCE INNOVATIONS" on Section 6 "Agricultural Sciences" -Petrozavodsk, Russian Federation, ICNP "New Science", 04.10.2021. - pp. 206–210. DOI 10.46916 / 06102021-978-5-00174-335-4;

One article submitted to the peer-reviewed scientific publication (OnLine Journal of Biological Sciences (ISSN16084217-USA)): Arysgul Turbekova, Irina Oshergina *, Alzhan Kurmangozhinov, Evgeniy Ten, Bekzat Amantayev. Evaluation of productivity cultivars of Grass pea (Lathyrus sativus L) in the conditions of Northern Kazakhstan (Percentile-42).

Information for potential users: The introduction of the most productive varieties of leguminous crops in modern production will speed up the solution of the problem of proper nutrition, strengthening the feed base, increasing soil fertility, economic and social sustainability of the agricultural and industrial sector.

Additional information: The results of the proposed project will contribute to the production of high-quality products with high added value, suitable both for use within the Republic of Kazakhstan and for export.