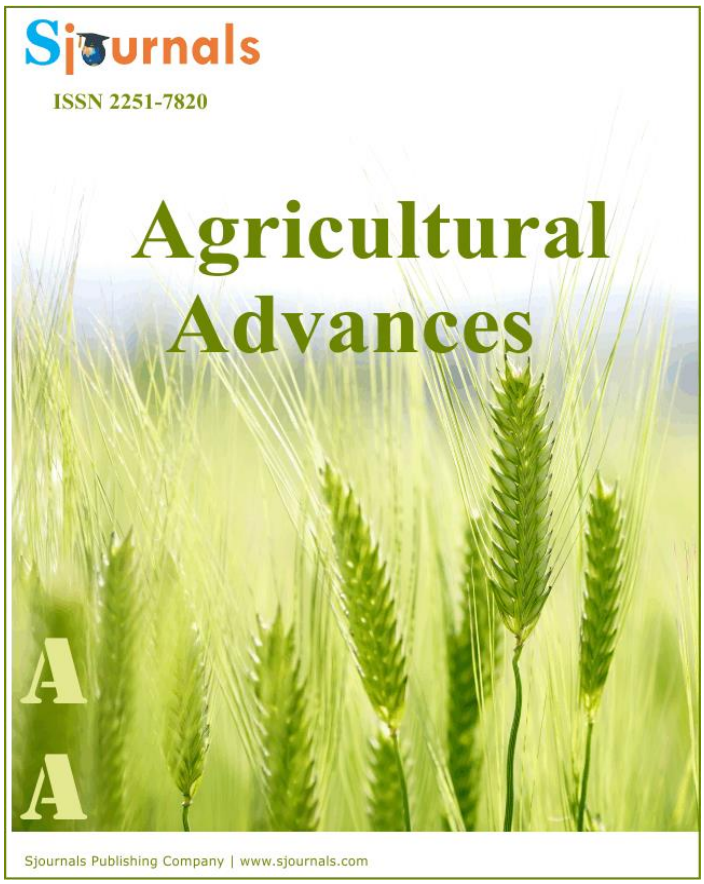
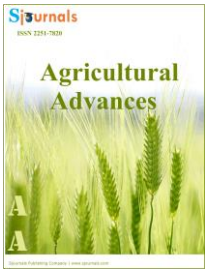


Sjournals
Scientific Journals
Agricultural Advances (2022) 11(1) 614-617
ISSN 2251-7820
doi: 10.14196/aa.v11i1.1668



Contents lists available at Sjournals
Agricultural Advances
Journal homepage: www.sjournals.com

Review article

Kyzylorda region - The history of the «rice epic» or problems and prospects of the industry

Aidos Mussabekov[a,*], Ergaly Zhumanazarov[a], Madina Maulenkulova[a], Nurbakyt Orazaliyev[b], Karlygash Polatbekova[c]

[a]*South Kazakhstan State Pedagogical University, Republic* of *Kazakhstan, Shymkent.*
[b]*Krasnovodopad Experimental Station LLP, Republic* of *Kazakhstan, Turkestan Region.*
[c]*K. Yassavi International Kazakh-Turkish University, Republic* of *Kazakhstan, Turkestan.*

*Corresponding author: doc-1982@mail.ru

ARTICLE INFO

Article history,
Received 12 December 2021
Accepted 21 January 2022
Available online 28 January 2022
iThenticate screening 15 December 2021
English editing 19 January 2022
Quality control 26 January 2022

Keywords,
Aral Sea region
Rice yield
Cultivation Assessment Technologies

ABSTRACT

Kyzylorda region has more than a century of rice growing history. During this period, the industry has gone through many stages - from ups to downs. According to archival sources, the first rice crops appeared along the Syr Darya River in the late 19th century. Only flat areas were developed, where there were no problems with irrigation. Rice farming in the early period was considered nomadic - because of waterlogging and salinization of fields, used areas were abandoned and new ones were developed. In the 1920s, a new stage of development began, which lasted for ten years. During this time, old irrigation systems were restored and new ones were created.

1. Introduction

With the advent of Soviet power, the Communist Party's agricultural policy was to achieve rice independence from foreign supplies. To achieve this goal, in 1933, the Kzyl-Orda rice field (now the Research Institute of Rice Production LLP) was created in our region under the subordination of the All-Union Experimental Rice Station in Krasnodar. Recommendations on rice cultivation, terms and methods of sowing, and combating land salinity were

developed by the first certified rice agronomist Kyzylorda region, practical scientist, and later associate professor, Candidate of Agricultural Sciences, holder of the Order of the Red Banner of Labor and the Order of the Badge of Altynbekov.

Mass rice farming began to develop after the deportation of Koreans from the Far East to our region, recognized experts in the cultivation of this crop. A few years later, in the early 1940s, the New Chile Irrigation System was built and Kyzylorda right bank Canal. The rice farmers had almost no equipment. They were sown and harvested by hand. Rice was tied up in sheaves, carried to the current. On the current, sheaves were passed from hand to hand until they were lowered into the thresher. The layout of rice checks at that time was not done at all. But the variety that was cultivated at that time, and it was called "Kazak-shala", even without fertilizers, gave high yields for that time - 50 centners each. Shoots appeared even under a layer of water of one meter. The name of the author of this variety has not been preserved in archival sources, it was then called "local", "national".

The first crop rotations in the region - 7-and 8-field with mandatory alfalfa sowing - appeared in the Shieli district. This made it possible to increase the yield of alfalfa and rice three times. The initiator and main propagandist of this new agricultural technique was Altynbekov. The experiments were carried out on plantations Ibraya ZhakhaevaStreet. Since 1940 Ibrai Zhakhayev was a member of the collective farm "Kyzyl-Tu" of the Chieli district. Tandem Altynbekov-Ibraev led to record harvests. The experience of advanced rice farmers was applied in all farms of the region. Over the years, twenty Shielites have become Heroes of Socialist Labor, and Ibrai Zhakhaev and Kim Man CAnd am are also winners of the Stalin Prize.

In 1940, among the leading workers of the collective farm "Kyzyl-Tu", a form of socialist movement emerged, which became known as"Zhakhaevsky". The number of "Zhakhaevs" grew, and in different years they became the Heroes of Socialist Labor U.Altaibayeva, K.Bodev, 3. Yerzhanova, S. Zhumabekova, Sh.Kazanbayeva, B.Mustafayeva. Average rice yield in 1942-1967 in the link Zhakhayev was 80-92 hundredweight. During the Great Patriotic War Zhakhayev received 80-90 centners each. In 1949, he collected 172 centners per hectare and set a world record.

In the 1950s, despite his age, he taught young rice farmers, opened the republican school of rice farmers. Those years for Kyzylorda region has been a star in the history of rice farming. The peasants already had enough equipment, and there were no problems with seeds, as scientists The Kyzylorda rice field (now "Research Institute of Rice Production" LLP) was fully provided by all collective farms. In total, in 1981-1985 Kyzylorda region handed over 1473,000 tons of rice to the state.

Subsequently, the" golden " time of rice farming for the main breadbasket, which was considered our region, has passed. The decline of the industry occurred in the 1990s, and for many years yields remained low, farmers did not have equipment, fertilizers, and money to purchase them.

2. Research methodology

The last three or four years have seen positive changes in rice farming. Over the past two years, the amount of state subsidies allocated has increased. The local authorities had to work hard to achieve such an increase-from six thousand tenge to twenty thousand tenge per hectare. Large farms managed to update almost half of the agricultural machinery fleet in a short period of time. Every year, farmers clean the internal canals at their own expense. And this is a million-dollar cost. But until now, the main problem remains the deterioration of land reclamation and irrigation and drainage systems. For this reason, yields are still low compared to those of the 1980s. For example, the average yield this season is about 43 centners. Over the past 10-15 years, the indicator is good, but it is almost two times lower than it was two decades ago. Therefore, in order to resolve the issue of land reclamation status, it is necessary to transfer to the republican ownership of the main canals and collectors of the region with the subsequent allocation of funds from the republican budget for the reconstruction of these objects. The region will not be able to cope with this task on its own. And without timely state assistance, the region may stop producing rice altogether, as the state of land worsens every year.

Another task presented to the state is the restoration of engineering-planned land. The first and only time they were fully planned was in the 1960s. Now small plots of rice growers are planning them on their own, but this procedure requires billions of dollars in costs, and farms do not have enough funds to carry it out at the proper level. Therefore, the Government of the Republic of Kazakhstan made proposals for their restoration. Now funds are being sought for the implementation of a project to restore 30 thousand hectares of our priceless land fund. Their revival will allow not only to achieve high yields, but also to improve the ecological situation of the Aral Sea region as a whole.

The third serious reason is the state of seed production development. Due to poor breeding work, we are forced to purchase rice seeds in the Russian Federation. And this season, 47.1 percent of rice crops were sown with seeds of new varieties of Russian selection. Low work on seed production is carried out due to the fact that for many years the scientists of the local Rice Research Institute did not have the necessary material and technical base, and there was practically no connection between science and production.

Today, the region is doing everything possible to revive rice farming and raise it to a new level. Along with the expansion of sown areas (almost 10 thousand hectares higher than in the past), work is underway to increase yields by applying mineral fertilizers and herbicides. But even here, as it turns out, there are problems. If rice farmers receive subsidies for herbicides used, then there is a separate budget program for mineral fertilizers. According to its rules, subsidies are paid only to those rice farmers who purchased mineral fertilizers of domestic production. Since the nitrogen fertilizers needed for rice farming-urea, ammonium sulfate-are not produced in the republic at all or are produced in insufficient quantities, farms bought them from Russian producers.

Be that as it may, the region is striving to regain the glory of the "rice granary". Scientists have developed new schemes for the production of ecological rice, methods for reclamation of saline lands of rice systems, new varieties are being created, and work is underway to introduce ridge sowing of rice into production, which will save water for irrigation. The first step in the framework of the above-mentioned signed memorandum and joint action plan has been taken. I would like to hope that the next steps will be equally confident.

Despite the acute shortage of irrigation water and difficult restrictions in the context of the pandemic, rice farmers of the region, thanks to their tireless work, gathered a rich harvest, improving last year's figure, the regional Department of agriculture reported. - The average yield was 61.8 centners per hectare. 551.3 thousand tons of rice were filled into the bins.

The harvest is ready, and it's time to " write a scenario" of crop production for the next year. Based on the fact that the Syr Darya becomes a low - water river, and rice is a crop that consumes a huge amount of moisture during the vegetative period. On the other hand, it is impossible not to plant rice in the Aral Sea region at all, this threatens an environmental catastrophe - global soil salinization.

3. Results and discussion

Guide Kyzylorda region indicates a gradual, gentle diversification of the agricultural sector of the agro-industrial complex of the region. Our main crop is rice, and this year we have a good harvest. We have sown 89.4 thousand hectares of rice, but 300 hectares of the crop "burneddown. Therefore, we need to think about how to further diversify agriculture. Rice crops should probably be kept at the level of 80-85 thousand hectares per year, and think about other crops too. For example, 30-33 thousand cubic meters of water are consumed per hectare of rice, " she said. - The same amount of water is spent on 10 thousand hectares planted with tomatoes. At the same time, 630 thousand tenge is received from a hectare of rice, and 26 million tenge from 10 thousand hectares of tomatoes.

A good example, given that tomatoes in the fields are also a lot of manual labor, and, therefore, work for rural residents. In the meantime, farmers in the region are increasing the area under forage crops, helping livestock breeders to feed their livestock.

In the last agricultural season, for the first time in recent years, the area of sugar sorghum was increased - up to 70 hectares, soybeans-up to 240 hectares, corn-up to 1,667 hectares, " the regional Department of agriculture reported - aquagels Winter wheat was planted on 80 hectares using aquagels. Using aquagels means no watering at all. This is a significant breakthrough, given that all agriculture in the region is based on irrigated fields.

Local scientists are also ready to help Kyzylorda farmers get on the rails of crop diversification. They conduct experiments on experimental fields, give recommendations to farmers on which crops to focus on, which seeds and technologies to use.

4. Conclusion

This experiment is part of the project "Introduction of new salt-resistant and low-moisture grain crops for rice crop rotations in Kazakhstan". And thanks to this project, it is possible to teach farmers not only to save water, but also to get profitable yields of non-capricious crops at low costs for the vegetative cycle.

In our climate and on our lands, it is possible and necessary to sow barley, alfalfa, sweet clover, sorghum, and African millet. - Especially promising is African sorghum, which grows even on highly saline lands, unpretentiously. Excellent feed for livestock: the juice of the stalk contains from 10 percent or more of sugar. In terms of feed parameters, African sorghum is close to corn.

References

Mussabekov, A., Orazaliyev, N., Zhumanazarov, E., Maulenkulova, M., Bekzhankyzy, A., 2021. Increasing the yield of rice cultivation by traditional methods in the conditions of Kyzylorda region. Sci. J. Crop Sci., 10(6), 497-500.

Mussabekov, A., Zhumanazarov, E., Maulenkulova, M., Bekzhankyzy, A., 2022. Protection of rice from pests of rice seedlings in the Kyzylorda region of the republic of Kazakhstan. Agr. Adv., 11(1), 608-613.

Mussabekov, A.T., Alshynbaev, O.A., Bekbolatova, G., Zhumanazarov, E.A., 2021. Ways to control rice pests. Science and education scientific and practical journal of the West Kazakhstan Agricultural and Technical University named after Zhangir Khan. 1-2(62)Ural, 40-46.

Mussabekov, A.T., Alshynbayev, O.A., Bekbolatova, G., Zhumanazarov, E.A., 2021. Influence of rice seed treatment by low-frequency electromagnetic method, Nauka I obrazovanie nauchno-prakticheskiy zhurnal ZapadnoKazakhstanskogo agrarno-tekhnicheskogo universiteta named after Zhangir khan. 1-2(62)Ural, 46-51.

Mussabekov, A.T., Zhumanazarov, E.A., Rice pests: types, impact on rice yield and ways to control them, collection of scientific articles of the International Scientific and practical Conference "independence and historical personality" dedicated to the 30th anniversary of independence and the 310th anniversary of Abylai Khan. Shymkent. 2, 296-300. Orchid ID 000-0001-8597-6499

Safronova, T.I., 2005. Assessment of the ecological situation in the existing rice irrigation systems. KubSAU, 87p. Seitkaziev, A.S., Dauletbaev, B.U., 2007. Problems of hydrochemical regime on geoecosystems of gray-earth soils in the south of Kazakhstan. Bulletin of TarSU im. M.H. Dulati. 4, 24-27.

How to cite this article: Mussabekov, A., Zhumanazarov, E., Maulenkulova, M., Orazaliyev, N., Polatbekova, K., 2022. Kyzylorda region - The history of the «rice epic» or problems and prospects of the industry. Agricultural Advances, 11(1), 614-617.