



Volume: 04 Issue: 07 |Jul 2023 ISSN: 2660-454X

<https://cajitmf.centralasianstudies.org>

Increasing the Efficiency of Walnut Production In the Frame of Food Safety Programs

¹Dr. Barno Rakhmonova
²Bozorboev Abdukakhor
Abdumannab's son

Received 17th May 2023,
Accepted 20th Jun 2023,
Online 20th Jul 2023

¹ Andijan Institute of Agriculture and
Agrotechnologies (Uzbekistan);
email: baxtdilel@gmail.com

²3rd level student of Andijan Institute of
Agriculture and Agro-Technology

Abstract: *The relevance of the article lies in the modern interest of the walnut industry of Uzbekistan. The article describes the benefits of walnut plantations, their importance in the global consumer market. It describes the current state of walnut plantations in Uzbekistan, the ongoing reforms in this industry and their results.*

Keywords: Uzbekistan, walnuts, efficiency of walnut production, walnut import, walnut export.

Introduction.

In order to meet the needs of an increasing population for food products today, the production of high-quality and high-calorie food products is considered important by all countries on earth. The walnut industry occupies a special place in this direction.

3.76 million tons of walnuts are produced annually in the world. China grows 1.79 million tons of walnuts per year and is the largest walnut producer in the world. The next place is the USA, the production volume of walnuts is 0.61 million per year on average. tons. China, the United States, Iran, Turkiye and Mexico are the world's largest walnut-growing countries, accounting for 79 percent of the world's total walnut production.

The total export of walnuts from these countries is 676.3 million US dollars¹. Looking at the intercontinental breakdown of gross walnut production between 2010 and 2020, Asia led the way with a 59.6% share. The smallest indicator corresponded to the contribution of the countries of the Oceania continent, and they produced 0.1% of the production.

According to the analyzes of the Food and Agriculture Organization (FAO), in the context of global climate change, it is not possible to fully satisfy the needs of people for food at the level of the countries of the world.

The main reasons for this can be explained by the natural growth of the population, the deterioration of ecological processes, the increase in the average annual temperature, the decrease in the average annual rainfall, the increase in droughts, and the decrease in the size of agricultural land as a result of industrialization.

These factors can lead to the cultivation of walnuts, the optimal distribution of walnut species, taking into account the soil and climatic conditions of the regions and an increase in the cultivation of walnuts, as well as a decrease in the quality of walnut fruits and disease.

According to an analysis of the indicators of growing walnuts in the context of improving the food supply of Uzbekistan in 2021, walnuts were grown on 8527 hectares, and this figure increased by 1.14 times compared to 2017. It was also noted that the yield of walnuts in 2017 amounted to 117.7 t/ha, and by 2021 this figure increased by 29.9 t/ha or 125.4 percent. In addition, in 2021, the average yield of walnuts in Andijan region amounted to 231.3 t/ha, an increase of 1.14 times compared to 2017. The annual consumption of walnuts in the republic averages 1.8-2.4 kg² per person.

Considering that this indicator is 6.2 times less than the medical norm, today the study and analysis of the organizational and economic aspects of walnut production in Uzbekistan through the development of intensive walnut cultivation is considered one of the topical issues.

Analysis of literature and methods. The studies were carried out by H.Adem and Peter H. Jerry, Larry Harper, William Kurtz, etc. Also by Russian economists such as Nazranov Kh.M., Chemazokova Z.Z., Salvaridze L.Kh., Nakonechnaya O.A., Khashir A .A., M. Bakhshinejad.

Scientific-theoretical solutions aimed at improving the economic basis of fruit and vegetable growing, cooperative relations, intensive horticulture in the agriculture of Uzbekistan O'.Umurzakov, N.Khushmatov, O.Jumaev, Kh.Khushvaktova, Ch.Murodov, S.Eshmatov, O.Sattorov, It is reflected in the research works of a number of agrarian economists such as N.Ashurmetova, O.Norbekov, F.Polvonov. However, in the works of the above scientists, the features, economic efficiency and organizational and economic aspects of growing walnuts as a subject of research have not been studied in detail.

Indicators of economic efficiency of growing walnuts in the conditions of Uzbekistan are a relatively new direction and have only been partially studied in the framework of a number of studies in the field of fruit growing. Also, the demand for walnuts and walnut products increases during the period of intensive development, when new organizational and economic mechanisms are being implemented in the context of sustainable development of agriculture.

¹ FAO, 2022. <https://www.fao.org/faostat/en/#data/QCL/visualize>

² F.Ahrorov, H.Avezov Walnut production potential and prospects in Uzbekistan: case of the Samarkand region. Current issues of bio economics and digitalization in the sustainable development of regions. International scientific - practical conference. 764-769-pages.

Results. To date, seedlings of more than 20 varieties of rare high-yielding walnut varieties have been grown. It also grows seedlings of black walnuts, chestnuts, hazelnuts, pecans, almonds, pistachios and other nuts. When growing seedlings, walnut varieties with different ripening periods were selected, and it will be possible to collect them within 2 months. The total area of the farm is 6 ha, 1 ha of land is being built as a greenhouse for the purpose of growing seedlings, and 5 ha of land is planned for creating gardens for the purpose of intensive reproduction.

Table 1. Economic indicators of walnuts grown in Uzbekistan³

Indicators	2017 y	2018 y	2019 y	2020 y	2021 y	in 2021 compared to 2017, %
Area, hectares	7505	10958	16128	14144	8527	113,6
Gross yield, tons	65463	59758	67733	79141	79300	119,2
Growth rate compared to last year, %	x	91,2	113,3	116,8	98,6	-
Yield, c/ha	117,7	122,0	120,3	123,2	147,6	125,4

In 2021, walnuts were grown on 16,128 hectares of land in Uzbekistan, which increased by 2.1 times compared to 2017. Gross harvest increased by 113.6% between 2017 and 2021 and decreased by 98.6% over that period. It can also be seen that the walnut yield in 2017 was 117.7 t/ha, and by 2021 this figure increased by 29.9 t/ha or 125.4 percent. Compared to 2020, the growth rate decreased by 98.6 percent (Table 1).

In 2021 the share of walnut production is higher in the Republic of Karakalpakstan (increase by 2.4 times), Andijan (2.1 times), Bukhara (4.9 times), Jizzakh (1.94 times), Navoi (2.02 times), Tashkent (1.9 times), Namangan (1.8 times) and Ferghana regions (2.39 times). In this period walnut production decreased in Kashkadarya (30.8%), Samarkand (82.3%) and Surkhandarya (46.2%) regions. The main reason for this was the felling of walnut forests in mountainous and foothill areas, the emergence of various diseases, the lack of selection of varieties suitable for the climate, and the process of low water in the regions (Table 2).

Table 2. Indicators of the gross harvest of walnuts in Uzbekistan⁴

Regions	2017 y.	2018 y.	2019 y.	2020y.	2021y.	in 2021 compared to 2017, %
Uzbekistan	65463	59758	67733	79141	79300	121,1
Republic of Karakalpakstan	10	13	16	13	24	240
Andijan	12164	21146	22185	28392	26232	215,7

³ Calculated on base of the information of State Statistics Committee of Uzbekistan

⁴ Calculated on base of the information of State Statistics Committee of Uzbekistan

Bukhara	454	1909	2483	2532	2221	489,2
Jizzakh	4436	6861	7288	7319	8644	194,9
Kashkadarya	3852	2306	1479	1853	1185	30,8
Navoi	1265	2175	3358	2720	2560	202,4
Namangan	6311	4847	5133	6802	6836	108,3
Samarkand	18650	6903	11757	14270	15350	82,3
Surkhandarya	12537	6605	5289	5823	5797	46,2
Syrdarya	1148	794	1226	800	899	78,3
Tashkent	3338	3910	5398	6077	6529	195,6
Ferghana	1260	2284	2121	2540	3023	239,9
Khorezm	38	5	-	-	-	-

In recent years, much attention has been paid to the development of the walnut industry, and the trend of its development is to further increase the volume of walnut cultivation using modern innovative methods, growing productive varieties suitable for the natural and climatic conditions of the region selected in the laboratory, pay attention to the development of nurseries, and develop modern marketing methods in the trading system. The creation of walnut plantations, focusing on the creation of large plantations with an area of 2-3 hectares for farmers, creates an opportunity to increase the income of the population.

CONCLUSION

If we consider the periods after independence, then the first period of economic reforms in the industry includes 1990–2002, the second stage is the period of deepening reforms in the industry, including 2003–2016, at the beginning of this period, walnut production gradually increased, and the consumption of the population also increased per capita. As the 3rd stage, it is named as the period of successive structural changes in the industry and covers the years after 2017. At this stage, the industry is undergoing rapid changes and reforms, increasing the production of walnuts with the help of modern resource-saving technologies and intensive methods.

In 2021 the share of walnut production is higher in the Republic of Karakalpakstan (increase by 2.4 times), Andijan (2.1 times), Bukhara (4.9 times), Jizzakh (1.94 times), Navoi (2.02 times), Tashkent (1.9 times), Namangan (1.8 times) and Ferghana regions (2.39 times). In this period walnut production decreased in Kashkadarya (30.8%), Samarkand (82.3%) and Surkhandarya (46.2%) regions.

If consider at the analysis in the context of all categories of farms, it can be seen that the weight of walnut production is mainly accounted for by farms, that is, in 2017, 60,217 tons were grown, and by 2021, it can be seen that 74,648 tons will be grown or 124.0% more. Farmers account for 94.1 percent of the total walnut crop grown in 2021. In 2021, compared to 2017, walnut production in farms decreased by 92.1 percent.

As a result of the development of high demand products in Uzbekistan, such as walnuts, hazelnuts, almonds, pistachios, some consumers buy nuts at relatively low prices to save on transport costs. In general, the organization of growing walnuts in our country by the bush method expands the possibilities of meeting the needs of the processing industry for raw materials.

References

1. The Decision of the President of the Republic of Uzbekistan "On the establishment of the association of walnut producers and exporters and organization of its activities". January 17, 2017. <https://lex.uz/docs/3225162>
2. B.Rakhmonova. Directions for increasing investment activity in the field of walnut growing and processing at the national and regional levels. Electronic journal of actual problems of modern science, education and training. July, 2022-7. P.24-29. ISSN 2181-9750. <http://khorezmscience.uz/uz>
3. B.Rakhmonova. Ways of perspective development of walnut production in Andijan region. Electronic journal of actual problems of modern science, education and training. December, 2020-VII. P. 23-31. ISSN 2181-9750 <http://khorezmscience.uz/uz>
4. B.Rakhmonova. Prospects for the development of walnut cultivation in Uzbekistan. Journal "Sustainable agriculture" №2(6) 2021. P. 24-27. ISSN 2181-9408. <http://sa.tiame.uz/en/page/arxiv>
5. Рахмонова Б.С. Мамлакатимизда ёнғоқ ишлаб чиқаришининг таркибий ва миқдорий ўзгаришлар тенденцияси. Таълим тизимида ижтимоий-гуманитар фанлар. №6, 2021. ISSN 2181-7286
6. Sangirova U.R, Khafizova Z.K., Kurbanova D.B., Rakhmonova, B.S., Kadirkhodjaeva F.B. A special place of walnuts in the world market (for example, Uzbekistan). Journal of Xi'an University of Architecture & Technology. Volume XII, Issue II, 2020. P. 2789-2796. ISSN: 1006-7930. DOI: 20.19001.JAT.2020.XII.I2.20.2090
7. U.Sangirova, B.Nosirov, B.Rahmonova. Properties and potential of walnut growing in Uzbekistan. JournalNX - A Multidisciplinary Peer Reviewed Journal, Volume 6, Issue 5, Page No. 140-146. ISSN: 2581-4230, <https://journalnx.com/papers/20150963-potential-of-walnut.pdf>
8. U.Sangirova, B.Nosirov, B.Rakhmonova. Organization of walnut production based on the industrial method in Uzbekistan. Sustainable agriculture. 2(6).2020. p.24-26. ISSN 2181-9408. <http://sa.tiame.uz/en/page/arxiv>
9. B.Rakhmonova. Improving the economic basis of walnut cultivation. Procedia on digital economics and financial research. Vol. 1 (2022). P.31-34. ISSN: 2795-5648. <https://procedia.online/index.php/economic/article/view/288/256>
10. B.Rakhmonova. Prospects for the Development of Walnut Clusters in a Digital Economy in Uzbekistan. European Journal of Business Startups and Open Society. Vol. 2 No. 3 (2022). P. 20-24. EJBSOS ISSN: 2795-9228.
11. B.S.Rakhmonova. The situation with Walnut Production in Andijan Province, efficiency, and problems. International journal of discourse on innovation, integration and education. Volume: 02 Issue: 02 | February 2021 ISSN: 2181-1067 Page 379-386.
12. Рахмонова Барно Сохибжоновна, & Исламова Дилобар Таиржановна. (2023). Ёнғоқ етиштиришининг иқтисодий самарадорлигини баҳолашнинг услубий асослари. Journal of New Century Innovations, 30(2), 159–168. <http://www.newjournal.org/index.php/new/article/view/7338>
13. Б.С.Рахмонова. Роль производства орехов в мировой экономике. Сборник научных трудов международной конференции молодых ученых “наука и инновации”, 01/11/2019, Ташкент. Министерство инновационного развития Республики Узбекистан. С 353-355

14. Б.С.Рахмонова. Экономическая эффективность создания фисташковых плантаций в Узбекистане. Аграрная наука XXI века. Актуальные исследования и перспективы. Научные труды III международной научно-практической конференции. Казань 2019.17.10 ISBN 978-5-905201-92-9. стр 428-430.
15. B.S. Rakhmonova. The trend of structural and quantitative changes in the production of nuts in Uzbekistan. "Development issues of innovative economy in the agricultural sector" International scientific-practical conference on March 25-26, 2021. Samarkand. P. 110-113.Web: <http://conference.sbtsue.Uz/uz>
16. U.Sangirova B.Nosirov, B.Rakhmonova. Organization of walnut production based on the industrial method in Uzbekistan. Journal "Sustainable agriculture" №2(6) 2020. P. 24-27.
17. B.S.Rakhmonova. B.Nosirov. Organization of production of walnuts in an industrial volumes. ECLSS International online Conference Economics & social sciences. June 28-29, 2020, Istanbul, Turkey.
18. B.S. Rakhmonova. U. Sangirova . The special place of walnuts in the world market and their transportation (case study of Uzbekistan). VIII International Scientific Conference Transport of Siberia – 2020 IOP Conf. Series: Materials Science and Engineering 918(2020) 012141 IOP Publishing doi:10.1088/1757-899X/918/1/012141
19. Б.С.Рахмонова, Б.З.Носиров. Ўзбекистонда хорижий тажрибалар ёрдамида ёнгок етиштиришнинг истиқболлари. Аграр соҳани барқарор ривожлантиришда фан, таълим ва ишлаб чиқариш интеграцияси «2020 йил – Илм-маърифат ва рақамли иқтисодиётни ривожлантириш йили»га бағишланган профессор-ўқитувчи ва ёш олимларнинг III - масофавий илмий-амалий конференцияси Тошкент 21 май 2020 йил. 1557-1561 бет.