

## WAYS TO IMPROVE THE EFFICIENCY OF NUT PRODUCTION IN TERMS OF FOOD SAFETY

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In order to meet the needs of a growing population in food products, the production of high-quality and high-calorie food products is considered relevant in the countries of the world today. 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, Turkey 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 dollars<sup>1</sup>. 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 our country, 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 kg<sup>2</sup> per person.

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

<sup>2</sup> Ф.Ахропов, Н.Аvezov O‘zbekistonning yong‘oq ishlab chiqarish salohiyati va istiqbollari: Samarqand viloyati kesimida. Current issues of bio economics and digitalization in the sustainable development of regions. International scientific - practical conference. 764-769-бетлар.

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 cultivation in the country through the development of intensive walnut cultivation is considered one of the topical issues.

H. Adem and Peter H. Jerry, Larry Harper, etc. The studies were carried out by William Kurtz, 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 gardening in the agriculture of our republic O. Umurzakov, N. Khushmatov, O. Jumaev, Kh. Khushvaktova, Sh. 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 nuts and nut 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.

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.

In 2021, walnuts were grown on 16,128 hectares of land in our country, 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).

**Table 1. Economic indicators of walnuts grown in the Republic of Uzbekistan<sup>3</sup>**

Indicators	2017 y	2018 y	2019 y	2020 y	2021 y	% of 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	-
Productivity, ts/ha	117,7	122,0	120,3	123,2	147,6	125,4

<sup>3</sup> Calculated based on the information of the State Statistics Committee of the Republic of Uzbekistan

In 2021, in the Republic of Karakalpakstan (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) the share of walnut production is higher. Also in Kashkadarya (30.8%), Samarkand (82.3%) and Surkhandarya (46.2%) regions, walnut production decreased. 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 the republic<sup>4</sup>**

Areas	2017 y.	2018 y.	2019 y.	2020y.	2021y.	% in 2021 compared to 2017
Republic of 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
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
Syr Darya	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 min-taka in laboratory conditions, pay attention to the development of nurseries, and to develop modern marketing methods in the marketing system. The establishment of walnut plantations, focusing on the establishment of large-scale plantations of 2-3 hectares for farmers, creates an opportunity to increase the income of the population.

If we consider the periods after gaining 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

<sup>4</sup> Calculated based on the information of the State Statistics Committee of the Republic of Uzbekistan

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, in the Republic of Karakalpakstan (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) the share of walnut production is higher. Also in Kashkadarya (30.8%), Samarkand (82.3%) and Surkhandarya (46.2%) regions, walnut production decreased.

If you look 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.

#### **FOYDALANILGAN ADABIYOTLAR**

1. Shermatov, O., and M. Kobulova. "Criteria and indicators of evaluation of economic efficiency in agriculture." *Актуальная наука. Международный научный журнал*. ISSN (2019): 2587-9022.
2. Olimjonova, G. M., and O. Shermatov. "Oziq-ovqat xavfsizligini ta'minlashda meva-sabzavotchilik sohasining o'rni." *Ilmiy amaliy agroiqtisodiy jurnal* 2 (2021): 20.
3. Shermatov, O. "Issues of increasing production efficiency in agriculture." *Electronic journal of actual problems of modern science, education and training* 7 (2020).
4. Sultanov, Bakhodir, et al. "The economic feasibility of cultivating intensive orchards." *E3S Web of Conferences*. Vol. 284. EDP Sciences, 2021.
5. Shermatov, O. A., and G. M. Olimjonova. "Factors affecting the efficiency of agricultural production." *Актуальная наука* 1 (2021): 34-37.
6. Shermatov, O., and N. Ismatova. "Ways to increase the economic efficiency of cotton in Uzbekistan." *Экономика и социум* 6-1 (97) (2022): 252-256.
7. Мамажонов, Акрамжон Тургунович, Ботирали Юлдашев, and Иброхимжон Сотволдиевья Фозилжонов. "ВЗАИМОСВЯЗЬ БУХГАЛТЕРСКОГО УЧЕТА И ЭКОНОМИКИ ПРЕДПРИЯТИЯ." *ИННОВАЦИОННАЯ ДЕЯТЕЛЬНОСТЬ: теория и практика* 6 (2016): 17-21.
8. Мамажонов, А. Т., et al. "Вопросы оценки нематериальных активов и их классификация." *Экономика, социология и право* 6 (2016): 22-26.

9. Юлдашев, Б. Т., et al. "ОРГАНИЗАЦИЯ АУДИТА НЕМАТЕРИАЛЬНЫХ АКТИВОВ." Экономика, социология и право 6 (2016): 44-46.
10. Mamazhonov, Akramjon Turgunovich. "CONCEPTUAL ISSUES OF ACCOUNTING FOR FINISHED GOODS IN THE AUTOMOTIVE INDUSTRY." Theoretical & Applied Science 12 (2020): 373-376.
11. Мамажонов, А. Т., and Ш. Қ. Қодиров. "ЗАМОНАВИЙ ТАЪЛИМ ВА ИННОВАЦИОН ТЕХНОЛОГИЯЛАР СОҲАСИДАГИ ИЛФОР ХОРИЖИЙ ТАЖРИБАЛАР: КЕЙС-СТАДИ." Academic research in modern science 1.10 (2022): 4-8.
12. Turgunovich, Mamajonov Akramjon. "KO 'P TARMOQLI FERMER XO 'JALIKLARIDA HISOB YURITISHNI TASHKIL ETISHNING NAZARIY ASOSLARI." IJTIMOIIY FANLARDA INNOVASIYA ONLAYN ILMIY JURNALI 3.6 (2023): 66-68.
13. Носиров, Баходиржон, and Барно Рахмонова. "Ўзбекистонда ёнғок ишлаб чиқаришнинг ташкилий-иқтисодий асосларини такомиллаштириш йўллари." Иқтисодиётда инновациялар 10 (2020): 173-181.
14. Носиров, Б., and Б. Рахмонова. "Ўзбекистонда ёнғок етиштиришни ривожлантириш истиқболлари." Иқтисодиётда инновациялар” журнали 8 (2020): 79-85.
15. Rakhmonova, B. S. "Prospects for the development of walnut cultivation in Uzbekistan." Journal" Sustainable agriculture" ISSN (2021): 2181-9408.
16. Nosirov, B., and B. Rakhmonova. "Prospects for the development of walnut cultivation in Uzbekistan." Journal" Innovations in the economy 8 (2020): 79-85.
17. Rakhmonova, B. S. "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 7 (2022): 24-29.
18. Рахмонова, Б. "Роль производства орехов в мировой экономике." Сборник научных трудов международной конференции молодых ученых “наука и инновации. Vol. 1. No. 11. 2019.
19. Shermatov, O., and M. Kobulova. "Criteria and indicators of evaluation of economic efficiency in agriculture." Актуальная наука. Международный научный журнал. ISSN (2019): 2587-9022.
20. Қобулова, М. Я. "Қишлоқ хўжалик тармоқлари интеграциясини ривожлантиришда инсон капиталидан самарали фойдаланиш. ISSN 2091-573 X Хоразм маъмун академияси ахборотномаси-10/2020, илмий журнал.-№ 10 (67) 72 бет."
21. Yakibovna, Qobulova Maxpubaxon. "Effective use of human resources in the development of agro-industrial integration." Journal of "Iqtisodiyotda innovatsiyalar". ISSN: 2181-9491.
22. Qobulova, M. Ya. "Effective use of human capital in the development of integration of agricultural sectors." ISSN 2091: 573.

23. Rekhviashvili, E. I., et al. "Immuno-biological reactivity to fascioliasis in Sheep." *Journal of Livestock Science* (ISSN online 2277-6214) 12 (2021): 56-59.
24. Kobulova, M. Ya. "The role of human capital in the development of labor potential." *Актуальная наука* 1 (2021): 31-33.
25. Nosirov, Bahodirjon, and Shoxruxbek Tulakov. "Opportunities to increase land efficiency in farming." *Innovative Technologica: Methodical Research Journal (IT)*. ISSN: 2776-0987 2.5 (2021): 175.
26. Nosirov, Bahodirjon, and Feruza Sobirova. "Effect of Production of Quality Products on Productivity in Livestock Farms." *Procedia on Digital Economics and Financial Research* 1 (2022): 18-24.
27. Nosirov, Bahodirjon, and Akbarali Abdurashidov. "IMPROVING THE EFFICIENCY OF LOANS IN FARMS." *Journal of new century innovations* 23.2 (2023): 14-18.
28. Karimov, N., and B. Nosirov. "The role of information technology in the activities of farms." *Russian Electronic Scientific Journal* 4 (2013): 16-21.
29. Erkinov, E., and B. Nosirov. "Leading experiences of development of agrotourism." *American Journal of Science and Learning for Development* 1.2 (2022).
30. Nosirov, Bahodirjon, and Dilobar Fakhridinova. "Reducing the cost of products in agroclusters in the digital economy." *Journal of new century innovations* 23.2 (2023): 19-24.
31. Shodimukhamedovich, Khojiboev Mukhiddin, and Kodirov Shukhratbek Kutbidinovich. "ORGANIZATION OF INTERNAL AUDIT SYSTEM IN BUDGETARY ORGANIZATIONS." *INTERNATIONAL JOURNAL OF SOCIAL SCIENCE & INTERDISCIPLINARY RESEARCH* ISSN: 2277-3630 Impact factor: 7.429 11.06 (2022): 25-27.
32. Shodimuxammedovich, Xojiboyev Muxiddin. "OLIIY TA'LIM MUASSASALARIDA BYUDJETDAN TASHQARI MABLAG'LAR HISOBINING NAZARIY ASOSLARI." *TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIIY JURNALI* 3.6 (2023): 138-141.
33. Хожибоев, Мухиддин Шодимухаммедович. "Роль анализа финансового состояния в разработке финансовой политики предприятия." *Economics* 5 (43) (2019): 55-57.
34. Abdullaev, Bakhodir, et al. "Leading research trends on innovation funding: a bibliometric analysis approach." *Journal of Data Acquisition and Processing* 38.1 (2023): 461.
35. Kutbidinovich, Kodirov Shukhratbek. "Improvement of internal audit in budgetary organizations." *INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES* ISSN: 2349-7793 Impact Factor: 6.876 16.06 (2022): 135-139.