GALAXY INTERNATIONAL INTERDISCIPLINARY RESEARCH JOURNAL (GIIRJ)
ISSN (E): 2347-6915
Vol. 12, Issue 2, February (2024)

THE YIELD OF QUINCE VARIETIES IN THE SOIL AND CLIMATIC CONDITIONS OF KARAKALPAKSTAN

Islamov S. Y.
Professor of Tashkent State Agrarian University,

Seilbekov R. B.
Independent Researcher of the Institute of Agriculture and Agrotechnologies of Karakalpakstan

ABSTRACT

In the article, the highest yield per 37.8-37.1 s/ha compared to the zoned standard Samarkandskaya krupnoplodnaya (st) variety (170.3 s/Ha) in obtaining the highest yield per unit of area from 6-year-old quince varieties studied in karakolpogystan soil-climatic conditions was Khorezm noksimon behisi (208.1 s/Ha), Savkhoznaya (207.6 s/Ha) and Non quince (207.4 s/Ha), as well as 16.9-13.2% has been reported to be detected in multiple aromatnaya (199.1 s/GA), otlichnitsa (195.2 s/GA) and yablokovidnaya (192.8 s/ga) varieties.

Keywords: soil-climatic conditions, quince, variety, standard, fruit.

INTRODUCTION

Quince (Cydonia oblonga Mill) is a very ancient and valuable seed-fruit crop that is widespread all over the world. Quince has been known as a fruit crop for over 4,000 years. Currently, it is widespread in Europe, the Middle East and Asia Minor, in some states of the USA and Australia, in Central Asia and the Caucasus [4]; [6].

Common quince contains 4.75-19.6% sugar (5.97-9.98 fructose, 2.77-3.31 sucrose, 5.97-9.28 glucose), 0.25-3.0% organic acids (0.25-1.68 apple, 2172.2%, 12.2 lemon), 0.27-2.25% pectin, up to 1.72% tannins [7]. Its seeds are rich in mucilage and are used for medicinal purposes. Its fruits are also used in folk medicine, have a beneficial effect on the cardiovascular system, are effective against gastrointestinal diseases and have astringent, diuretic, hemostatic, antiseptic and antiemetic effects. Aqueous infusion of quince leaves lowers blood pressure and has the ability to stop bronchial asthma attacks [5].

According to FAO data, Turkey (27.53% and 190.01 thousand tons), China (15.97% and 111.38 thousand tons) in the world production of 1050 thousand tons of quince are in the top ten (contribution and tons) t.), Uzbekistan (13.98% and 97.54 thousand t.), Iran (12.98% and 90.56 thousand t.), Morocco (7.83% and 54.64 thousand t.) , Azerbaijan (4.13% and 42.07 thousand tons), Argentina (4.13% and 28.81 thousand tons) and Serbia (1.49% and 10.43 thousand tons) are the countries.

In expanding the assortment of quince varieties in the world, as well as providing raw materials for food and processing enterprises, it is industrially short in Turkey, China, Iran and Argentina, large-fruited in Serbia, Morocco and Iran, cold-resistant and fruitful in Russia, Georgia, Azerbaijan. researches are being conducted on the creation of varieties.

According to the analysis of these studies, in the last 30 years, scientific research work on the selection of quince varieties has not been carried out enough in Uzbekistan. In this regard, it

was considered urgent to conduct scientific research within the framework of choosing quince suitable for the northern regions of Uzbekistan.

RESEARCH METHODS

Field experiments "Programa i metodika sortoizucheniya plodvikh, yagodnih i orekhoplodnikh kultur" (Orel 1999), "Methodology of calculations and phenological observations in conducting experiments with fruit and berry-bearing plants" (Buriyev Kh.CH., et al., 2014), the statistical analysis of research results was carried out in Excel 2010 and Statistica 7.0 for Windows, with a confidence interval of 0.95% "Metodika polevogo opita" (Dospekhov B.A., 1985) dispersion calculated according to the method [1]; [2]; [3].

"Samarkandskaya krupnoplodnaya" (st), "Aromatnaya", "Izobelnaya", "Mushk bekhi", "Savkhoznaya", "Krimskaya aromatnaya", "Otlichnitsa", "Anjerskaya", "Grushavidnaya" were introduced in Uzbekistan as objects of research. , "Zakatolskaya", "Konservnaya", "Micha urojaynaya", "Nagibrin", "Tursh Bukharskaya", "Yablokovidnaya" and trees, fruits and productivity of the varieties "Khorazm pear-shaped quince", "Non Behi", "Nordon" belonging to the folk selection served.

RESEARCH RESULTS

When regionalized and foreign selected quince varieties were studied in Uzbekistan, it was found that the weight of one fruit of the standard Samarkandskaya krupnoplodnaya (st) variety was 264 g, and compared to it, a larger fruit weight of 320.0 g was formed in the Bread quince variety (584 g). .

In addition, compared to the standard Samarkandskaya krupnoplodnaya (st) variety, heavy fruit weight of 21.0-13.0 g was shown by Khorezm pear quince (285 g), Micha urojaynaya (279 g) and Konservnaya (277 g) varieties. On the contrary, compared to the standard Samarkandskaya krupnoplodnaya (st) variety, it was found that 76.0-122.0 g of small fruit weight was formed in Savkhoznaya (188 g), Aromatnaya (172 g) and Anjerskaya (142 g) varieties (Fig. 1).

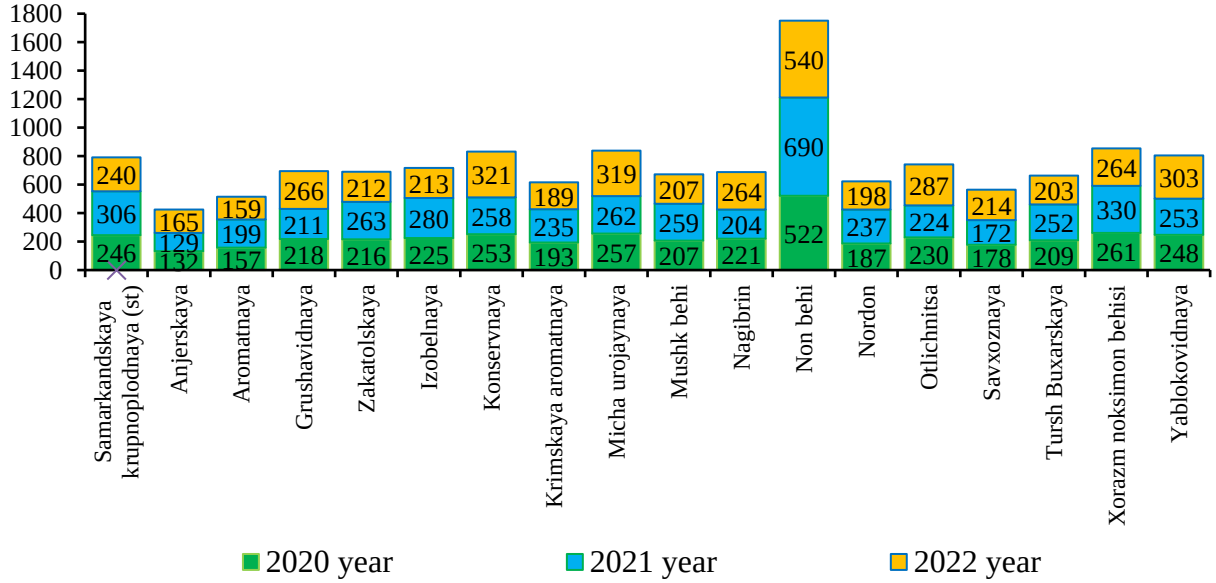

Figure 1. Fruit weight of quince varieties (2020-2022)

When determining the yield from one bush of 6-year-old quince varieties studied in the soil and climate conditions of Karakalpakstan, in the middle of 2020-2022, the yield from one bush of the standard Samarkndskaya krupnoplodnaya (st) variety was 41.0 kg. , a higher yield of 8.9-8.8 kg was found in Khorezm pear-shaped quince (49.9 kg), Bread quince (49.8 kg) and Savkhoznaya (49.8 kg) varieties. Also, 7.1 from one bush; Aromatnaya (48.1 kg), Otlichnitsa (46.8 kg) and Yablokovidnaya (46.2 kg) varieties showed a higher yield of 5.8 and 5.2 kg compared to the standard Samarkandskaya krupnoplodnaya (st) variety. On the contrary, compared to the standard Samarkandskaya krupnoplodnaya (st) variety of heifer 11.5-17.3% less yield per tree was shown by Krimskaya aromatnaya (36.3 kg), Konservnaya (35.5 kg), Nagibrin (34.8 kg) and Izobelnaya (33.9 kg) varieties (2 - picture).

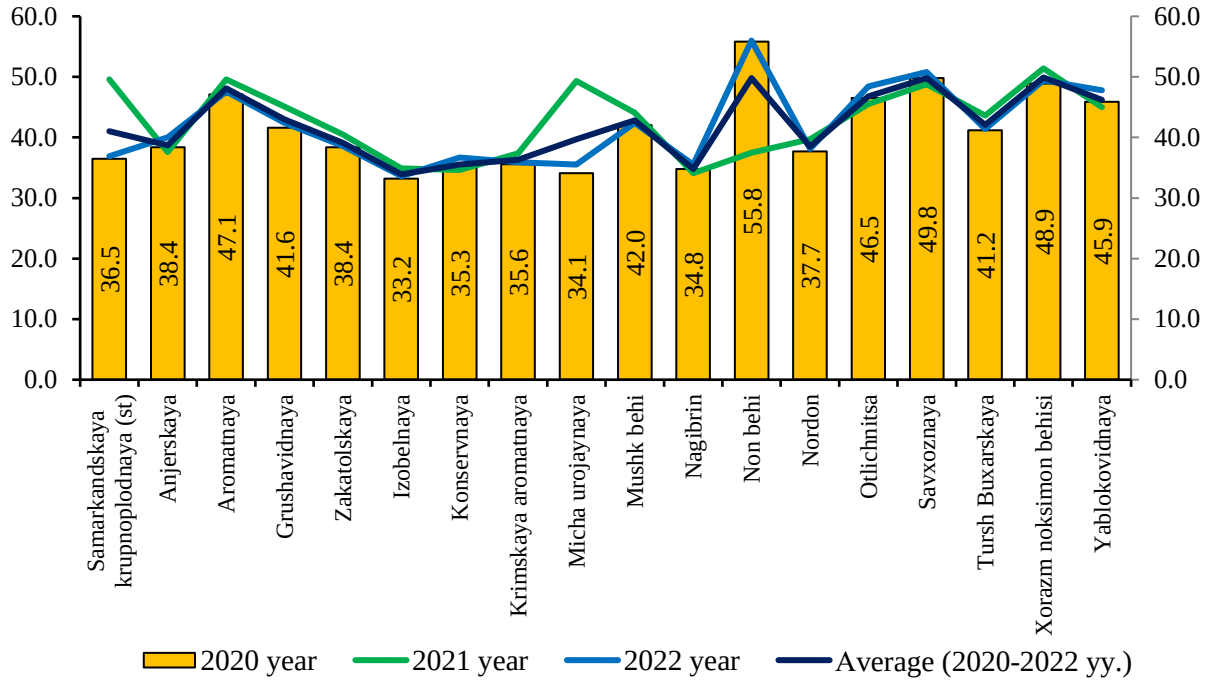

Figure 2. Yield of quince varieties per bush (2020-2022)

When choosing quince varieties suitable for the soil and climate conditions of Karakalpakstan, when the productivity per unit of area was studied, the standard Samarkandskaya krupnoplodnaya (st) variety was 170.3 s/ha, compared to which 37.8-37.1 s/ha had the highest productivity. Khorezm pear-shaped quince (208.1 s/ha), Savkhoznaya (207.6 s/ha) and Bread quince (207.4 s/ha) were found. Also, Aromatnaya (199.1 s/ha), Otlichnitsa (195.2 s/ha) and Yablokovidnaya (192.8 s/ha) are 16.9-13.2% more than the standard Samarkandskaya krupnoplodnaya (st) variety) varieties (Fig. 3).

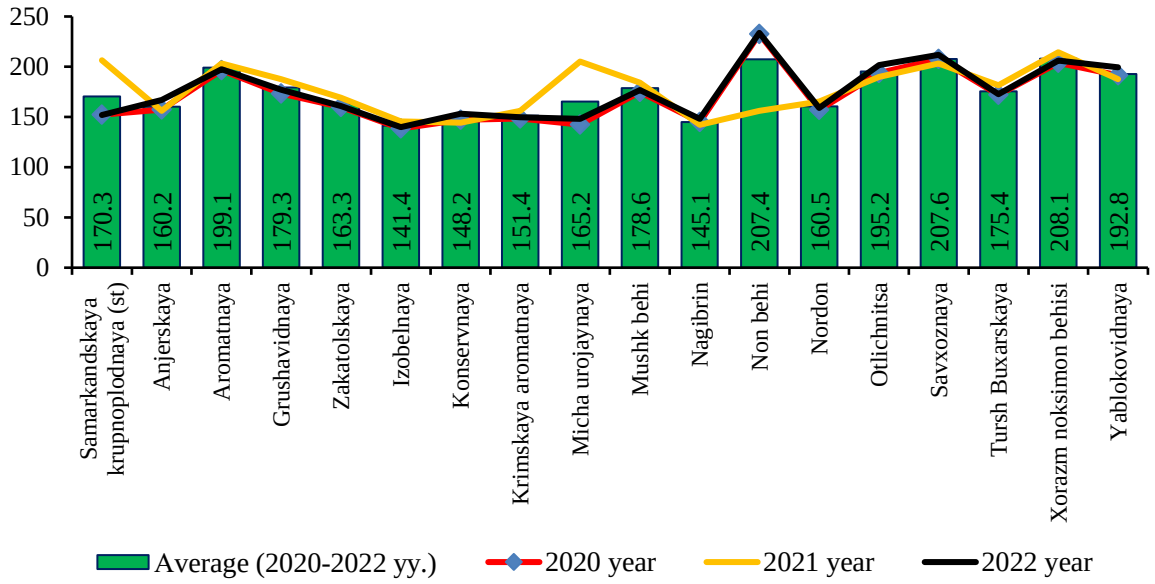

Figure 3. Productivity of quince varieties, s/ha

According to the data in Figure 3, when determining the yield of quince varieties in the northern region of Uzbekistan, Krimskaya aromatnaya (151.4 s/ha), Konservnaya (148.2 s/ha), Nagibrin (145.1 s/ha) and Isobelnaya (141.4 s/ha) varieties compared to the standard Samarkandskaya krupnoplodnaya (st) variety (respectively): 18.9 (or 11.1%); It was found that 22.1 (13.0 %), 25.2 (14.8 %) and 28.9 (17.0 %) s/ha gave the lowest yield.

CONCLUSION

In the soil and climate conditions of Karakalpakstan, industrial plantations can be established on the basis of Khorezm pear-shaped quince, Savkhoznaya, Bread quince, Aromatnaya, Otlichnitsa and Yablokovidnaya varieties of quince.

REFERENCES

1. Buriyev H.CH., Yenileyev N.SH., Namozov I.CH., and others. Methodology of calculations and phenological observations in conducting experiments with fruit and berry-bearing plants. - T.: ToshdAU, 2014. - P. 64.
2. Dospekhov B.A. Methodology polevogo opita. - M.: Kolos, 1985. - C. 207-223, 268-297
3. Programma i metodika sortoizucheniya plodnikh, yagodnih i orekhoplodnikh kultur (sub-ed. YE.N. Sedova, T.P. Ogolsovoy). - Orel: VNIISPK, 1999. - P. 253-299.
4. Baskakova V.L. Sravnitelnaya ottenka sortov avi (Cydonia oblonga Mill.) po basic morphological and economic and biological characteristics // Journal "Biologiya rasteniy i sadovodstvo: teoriya, innovatsii". - Moscow, 2019. - No. 4 (153). - S. 93-101.
5. Buchenkov I.E. Aiva obiknovennaya // Magazine "Agropanorama". - Minsk, 2015. - P. 29-31.
6. Adler M. Quince (Cydonia oblonga Mill.) and ist growing and economic descriptions // Fruit growing and viticulture II Floriculture and medicinal plants and other general topics: Proceedings of 9 International Conference of Horticulture. - Czech Republic, Lednice, 2001. - Volume 1. - P. 3-7.
7. Donchenko L.V. Technology of pectin and pectin products (educational training). - M.: Delhi, 2000. - 230 p.