American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 03 ISSUE 06 Pages: 34-38
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 7. 471)
OCLC – 1290679216
Publisher: Oscar Publishing Services

Journal Website: https://theusajournals.com/index.php/ajahi

Research Article

BIOMETRIC INDICATORS OF TREES OF WALNUT VARIETIES

Submission Date: June 19, 2023, Accepted Date: June 24, 2023,
Published Date: June 29, 2023
Crossref doi: https://doi.org/10.37547/ajahi/Volume03Issue06-08

Islambek Rahimberdievich Akbaraliev
Supporting Doctoral Student, TOSHDAU, Uzbekistan

Islamov Sohibjon Yakhshibekovich
Professor, TOSHDAU, Uzbekistan

ABSTRACT

Tree height and trunk size, branch size, projection, and branch size were determined in walnut orchards of 16 varieties in the walnut collection.

KEYWORDS

Walnut, Varieties, Branches, Tree, Leaf, Idel, Collection Garden.

INTRODUCTION

The year-by-year increase in the demand for food products in the world requires the further expansion of agricultural crops and the constant supply of high-quality food products. There are 1,098 million people in the world today. There are walnut groves in the area of 3.829 mln. tons of nuts are produced. Currently, walnut plantations are being established.

China, the USA, Iran, Turkey, Mexico, Ukraine and Chile are the leading countries in the world in the cultivation and export of walnuts. For all the countries of the world, if agrotechnical activities are not carried out on time in walnut orchards in order to increase productivity, to improve the quality of fruits, to conduct scientific researches in the priority areas such as bioecological characteristics and creating advanced resource-saving measures against them is one of the urgent issues of today.

Special attention should be paid to agrotechnics in expanding the areas of walnut orchards cultivated on the basis of intensive technologies in the republic and increasing their productivity. Because, in paragraph 3.3 of the Decree of the President of the Republic of Uzbekistan No. PF-4947 dated February 7, 2017, "... consistent development of production in agriculture,

American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 03 ISSUE 06 Pages: 34-38
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 7. 471)
OCLC – 1290679216
Publisher: Oscar Publishing Services

further strengthening of the country's food security, expanding the production of ecologically clean products, reducing the areas planted with cotton and grain crops, establishing new intensive gardens on vacant land, creating and introducing into production new selective varieties of agricultural crops that are resistant to diseases, adapted to the local soil, climate and ecological conditions" are important strategic tasks. is considered

RESEARCH METHOD

Field experiments were carried out on the basis of the method developed by the All-Russian Research Institute of Fruit Breeding "(Orel 1999) "for the study of varieties of fruit, berry fruit and nut plants.

RESEARCH RESULTS

In the study of economic and biological characteristics of walnut (Juglans regia L.) cultivars, biometric measurements of 4 trees of 66-55-year-old walnut cultivars planted in 1957-1968 in a 10×10 m planting scheme were conducted.

The compared varieties of walnuts in terms of tree height were Ideal (st) variety - 997.3 cm, compared to which tree height was found to be 8.4% or 84.0 cm in Uzbekskiy skoroplodnyy variety. However, in other compared walnut varieties Tonkoskorlupnyy (394.7 cm), Gvardeysky (395.0 cm), Hissarsky (395.0 cm), Grozdevidnyy (395.4 cm) and Kazakhstansky (399.0 cm) the tree height was 394 .7-399.0 cm higher, Rodina (404.7 cm), Hibridnyy (417.4 cm), Istiqlal (425.4 cm), Panfilovets (443.0 cm), Yubileynyy (444.7 cm), Mirnyy

(452.0 cm), Bostanlyksky (454.4 cm), Konsaisky (456.4 cm) and Pioner (461.0 cm) tree height compared to the Ideal (st) variety

It was found to be 404.7-444.7 cm tall (see Table 1).

Standard Ideal (st) trunk height of trees

It is 126.6 cm, compared to it, 1.9-4.0 cm or 1.5-3.2 percent higher in Uzbekskiy skoroplodnyy (128.5 cm) and Kazakhstanskiy (130.6 cm) varieties. Compared to the Ideal (st) variety, the height of the tree trunk is 24.6-27.6 cm higher in Istiklal, Panfilovets, Grozdevidnyy and Rodina varieties, and 30.1-39 in Hissarsky, Mirnyy, Pioner, Hibridnyy, Bostanlyksky, Tonkoskorlupnyy, Konsaisky and Yubileynyy varieties. up to .5 cm and the highest tree trunk was found to be 137.0 percent or 46.8 cm higher than the standard variety of Gvardeysky variety.

1-жадвалдаги маълумотлар тахлилларига кўра, грек ёнғоғи навлари-нинг дарахт танасини диаметри 122,9...145,3 см оралиғида бўлиб, кичикроқ дарахт танаси диаметрини Узбекский скороплодный (122,9 см) навида шаклланганлиги аниқланди. Бу эса, Идеал (st) навига нисбатан 2,7 фоизга ёки 3,4 см га кичикроқ бўлганлиги маълум бўлди.

1-list

Tree and branch biometry of walnut cultivars

illustrations (2020-2022 йй.)

American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 03 ISSUE 06 Pages: 34-38
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 7. 471)
OCLC – 1290679216
Publisher: Oscar Publishing Services

Names of varieties	Дарахт баландлиги, см	Дарахт танасининг, см		Шох-шабба кенглиги, см			Шох-шабба проекцияси, м^2	Шох-шабба хажми, м^3
		баландлиги	диаметри	баландлиги	қаторда	қатор оралиғида		
Idea	997,3	126,6	126,3	870,7	217,3	263,0	5,9	51,7
Bostanliq	1451,7	158,5	129,9	1293,2	313,0	342,3	10,8	141,2
Tonkovskiy	1392,0	160,3	134,1	1231,7	343,7	346,0	11,9	146,9
Jubiley	1442,0	166,1	133,5	1275,9	371,3	376,3	13,9	178,8
Gvardeskiy	1392,3	173,4	136,0	1219,0	288,3	329,7	9,6	117,4
Гибридный	1414,7	157,3	131,6	1257,4	367,7	375,3	13,8	174,1
Гиссарский	1392,3	156,7	138,7	1235,7	363,0	326,3	11,9	147,7
Гроздевидный	1392,7	153,4	132,7	1239,3	362,0	303,7	11,0	136,7
Истиқлол	1422,7	151,2	145,3	1271,5	323,0	404,3	13,3	171,3
Казахстанский	1396,3	130,6	141,0	1265,7	363,0	357,7	13,1	166,6
Консайский	1453,7	161,2	137,2	1292,5	265,3	313,3	8,3	108,3
Мирный	1449,3	156,7	143,6	1292,6	283,7	336,7	9,7	126,5
Панфиловец	1440,3	151,5	133,9	1288,8	362,0	338,7	12,3	160,2
Пионер	1458,3	157,2	138,0	1301,2	354,0	326,0	11,6	152,2
Родина	1402,0	154,2	132,5	1247,8	349,0	281,0	9,9	124,4
Узбекский скороплодный	1081,3	128,5	122,9	952,9	259,7	230,3	6,1	58,1

American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 03 ISSUE 06 Pages: 34-38
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 7. 471)
OCLC – 1290679216
Publisher: Oscar Publishing Services

Bostanlyksky, Hibridnyy, Rodina, Grozdevidnyy, Yubileynyy, Panfilovets, Tonkoskorlupnyy and Gvardeysky varieties compared to the ideal (st) variety (126.3 cm) have a trunk diameter from 3.6 cm to 9.7 cm, as well as Konsaisky, Pioner, Hissarsky, Kazakhstansky, In Mirnyi and Istiqlal varieties, it was found that it was formed from 10.9 cm to 19.0 cm thick.

Among the walnut varieties, the height of the branches was 870.7 cm in the Ideal (st) variety, while it was found that it was 9.4 percent or 82.2 cm higher in the Uzbekskiy skoroplodny variety. However, Gvardeisky, Tonkoskorlupnyi, Hissarskyi, Grozdevidnyi, Rodina, Hibridnyi and Kazakhstani varieties, which are 40.0-45.4% or 348.3..395.0 cm high compared to the Ideal (st) variety (870.7 cm) and 46 ,0-49.4 % or 400.8.. 430.5 cm high in Istiklal, Yubileyny, Panfilovets, Konsaisky, Mirnyy, Bostanlyksky and Pioner varieties.

The width of the branches between the rows of the compared walnut in the Ideal (st) variety is 263.0 cm, compared to it, the width of the compact branches between the rows is 12.4 percent or 32.7 cm in the Uzbekskiy skoroplodnyy variety (230.3 cm). was found to be.

The width of the branches between the rows is compared to the Ideal (st) variety

Up to 18.0..50.3 cm (or 6.8-19.1 %) - Rodina (18.0 cm; 6.8 %), Grozdevidnyy

(40.7 cm; 15.5 %) and Konsaisky (50.3 cm; 19.1 cm) varieties were found.

The width of the branches between rows is up to 112.3-141.3 cm (or 42.7-53.7 %) compared to the Ideal (st) variety - Hybrid (112.3 cm; 42.7 %), Jubileyny (113, 3 cm; 43.1 %) and Istiklal (141.3 cm; 53.7 %) varieties were formed.

Also, the projection of the branches is much wider than the Ideal (st) variety by 6...8 m2 (or 101.7..135.6 %) Tonkoskorlupnyi (6.0 m2; 101.7 %), Hissarsky (6.0 m2; 101.7 %), Panfilovets (6.4 m2; 108.5 %), Kazakhstansky (7.2 m2; 122.0 %), Istiklal (7.4 m2; 125.4 %), Hybrid (7 .9 m2; 133.9 %) and Yubileynyy (8.0 m2; 135.6 %) were formed.

Branch size of walnut trees in Ideal (st) variety –

51.7 m3, compared to the standard variety Uzbekskiy skoroplodnyy (58.1 m3), it was found that the size of the branches is 6.4 m3 wide. However, Konsaisky (56.6 m3), Gvardeysky (65.7 m3), Rodina (72.7 m3), Mirnyy

(74.8 m3), Grozdevidnyy (85.0 m3), Bostanlyksky (89.5 m3), Tonkoskorlupnyy (95.2 m3), Hissarsky (96.0 m3) and Pioner (100.5 m3) varieties, and Ideal (compared to the st) variety, a larger volume of branches was formed by 209.5...294.4%. ,4 m3) and Yubileynyy (127.1 m3) varieties, it was found that the volume of branches was very wide, 309.9...345.8%.

CONCLUSION

Compared to the Ideal (st) walnut variety, Uzbekskiy skoroplodnyy tree height - 84.0 cm (7.8 %), trunk - 1.9 cm (1.5 %) higher, on the contrary, tree trunk diameter - 13.4 cm (2.7%) was found to be small. 461.0-394.7 proportionally compared to the Ideal (st) variety in other walnut varieties; It was 46.8-24.6 and 19.0-3.6 cm higher.

proportionally 430.5-348.3 compared to the Ideal (st) variety; 154.0-48.0 and 141.3-18.0 cm were higher, while in the Uzbekskiy skoroplodnyy variety - 9.4; It was found that 19.5 and 12.4% of compact branches were formed.

The cone projection is 3.4% (0.2 m2) wider in the Uzbekskiy skoroplodny variety compared to the Ideal

American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 03 ISSUE 06 Pages: 34-38
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 7. 471)
OCLC – 1290679216
Publisher: Oscar Publishing Services

variety (5.9 m2), on the contrary, in other varieties it is 2.4...8.0 m2 or 40.7...235, 6%, compared to the Ideal variety (51.7 m3) with small branches, it is 6.4 m3 wider in the Uzbekskiy skoroplodnyy variety (58.1 m3), and in other varieties, 309.9... 345.8 % is very it was found that it was of a wide branch size.

REFERENCES

1. 2017 of the President of the Republic of Uzbekistan
2. Decree No. PF-4947 dated February 7.
3. Richter A.A., Yadrov A.A. Gretsky Orex. - Moscow: Agropromizdat, 1985.
4. The results of S.S. Kalmikov's (1956) observations in 1938.
5. Sobirov M.K. Home garden care Tashkent "Labor" 1985.
6. Kuznetsov V.V. Orechoid culture in Uzbekistan. Tashkent, 1938.