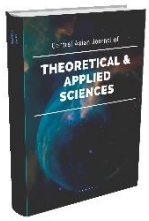

CENTRAL ASIAN JOURNAL OF THEORETICAL AND APPLIED SCIENCES

Volume: 04 Issue: 11 | Nov 2023 ISSN: 2660-5317
https://cajotas.centralasianstudies.org

Study and Selection of Valuable Indicators of Economic and Biological Indicators of Different Forms of Hazelnuts

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Received 4th Sep 2023, Accepted 6th Oct 2023, Online 20th Nov 2023

Abstract: *The article studies the prospects for the introduction of hazelnuts into irrigated and semi-irrigated mountain zones of Uzbekistan based on the study of economically valuable indicators.*

Keywords: *valuable indicators, nut fruit, flowering phases, dichogamy.*

Introduction. In recent years, great attention has been paid to the establishment of Hazelnut gardens in the Republic of Uzbekistan.

Hazelnut is one of the most promising nuts. Its nuts contain almost everything necessary for a complete and healthy diet for a person in an optimal combination and are distinguished by high demands in the world market.

It is in great demand, especially in the food and confectionery industry, in the preparation of high-grade varieties of holwa, etc.

In Uzbekistan, hazelnut is a relatively young nut crop, which does not yet have extensive production practice and is being studied in a limited amount for experimental purposes.

Funduk is widespread on the Black Sea coast of the Caucasus and Asia. It is grown on relatively small areas in the North Caucasus , Central Asia, Moldova, Ukraine, some regions of the Voronezh and Kursk regions of the Russian Federation. Hazelnut in Uzbekistan at the beginning of the last century, mainly I. V. From the seeds brought from the Maikovsky station of the Central Laboratory named after Michurin, it was started to be grown for the purpose of cultivation and formation.

Scientific studies show that hazelnut is one of the promising nut crops in the conditions of Uzbekistan. In recent years, it became necessary to include hazelnut in the industrial assortment.

Therefore, the purpose of this study is to study the forms introduced in our area, among them to distinguish the most valuable and promising forms for the design and introduction of varieties into production.

The experimental plot of the study of hazelnut forms with seeds from 1950 is M. located at an altitude of 940 m above sea level. It was planted according to a 6x6 m scheme in the Konsoy section of the Mirzaev Mountain Bostonliq scientific-experimental station, and the total area of seedlings is 0.45 ha. Root and layer forms and 140 numbers of seedlings are being studied.

Scientific research method. The following calculations and observations were made during the study:

1. Phenophase is the flowering of leaves, the flowering time of male and female flowers and the degree of flowering in the five-point system, the time of crop ripening.
2. Degree of damage of vegetative and generative tree organs from unfavorable conditions, in %.
3. Preliminary calculation of the yield from each bush to kg (visual estimation).
4. Collecting and counting the yield in kg and kg/ha from each bush.
5. After drying, mechanical determination of fruit quality by the method of varietal study of nut cultures:

a) average mass of nuts, gr.,

b) kernel output, in %.

Research results. In the course of observations, the data showed that there are high prospects for the cultivation of hazelnuts on an industrial scale in the irrigated and conditionally irrigated mountainous regions of Uzbekistan.

Hazelnut form and seedlings produced high flowering rates of both male and female flowers and moderate fruit set.

№ Seedlings and forms	Flowering period (male flowers)			Flowering period (female flowers)			The maturity of the crop
	Start date	End date	Grade	Start date	End date	Grade	
Kudryavchik (pattern type)	15.03	25.03	4.5	17.03	26.03	5.0	30.03
Sort №184	16.03	27.03	4.5	18.03	4.0	4.0	30.03
form №1	19.03	24.03	5.0	22.03	4.5	4.5	26.08
form №2	16,03	28.03	4.5	15.03	4.5	4.5	3.09
form №3	17.03	23.03	4.0	17.03	5.0	5.0	28.03
Seedling №82	18.03	26.03	4.5	21.03	4.5	4.5	3.09
Seedling №129	15.03	23,03	4,5	19,03	4,5	4,5	28.03
Seedling №137	15.03	24.03	4.5	17.03	5.0	5.0	31.03
Seedling №233	17.03	25.03	5.0	20.03	5.0	5.0	23.08
Seedling	15.03	26.03	5.0	15.03	4.05	4.05	30.08

№236							
Seedling №241	16.03	24.03	4.5	17.03	4.5	4.5	1.09
Seedling №255	16.03	26.03	4.5	17.03	4.0	4.0	1.09
Seedling №260	18.03	29.03	5.0	18.03	5.0	5.0	23.08
Seedling №264	17.03	27.03	5.0	18.03	4.5	4.5	28.08
Seedling №252	16.03	25.03	4.5	18.03	4.0	4.0	24.08
Seedling №272	15.03	27.03	5.0	20.03	5.0	5.0	3.03
Seedling №279-A	16.03	25.03	3.5	16.03	4.5	4.5	4.09
Seedling №283	21.03	30.03	4.5	20.03	4.5	4.5	2.09

Fundus phenophase monitoring data for the reporting period, see Table 1.1.

The phenological phases of the fundus vary significantly depending on the meteorological conditions of the growing season. If the high temperature continues every day with the onset of warming, during this period the hazelnut blooms faster, and the male flowers finish blooming in about 3-5 days, and the female flowers bloom in up to 15 days. When it is cold during flowering, that is, when the temperature drops below +10 C, the flowering period is significantly extended. In the absence of the necessary temperature, it stops flowering altogether. F. A. According to Pavlenko (1957), the duration of flowering of female flowers lasts from 6 to 50 days.

N. A. Tkagushev (1952), N. I. Kichunov (1934) believes that it is possible to grow hazelnuts in mountainous regions, where the temperature rarely drops to -27-30 ° C in winter. V. A. Kolesnikov (1975) stated that during the flowering period of hazel, if the air temperature drops below +7 ° C, 50% of seedlings will be damaged.

The phenomenon of dichogamy (blooming of male and female flowers at different times) is observed during the flowering of the fundus, and this is considered to be one of the reasons for the low yield due to the lack of pollination in many cases.Phenological indicators of valuable forms of hazel **Table 1.1**

Economic indicators of hazelnut varieties and forms.
Table-2.2

Types and forms	Yield from tree,k/g	ц/ha	Ср. mass, г.	Kernel output,%	Kernel fat content,%	Diseases grade	Pests	Others
Kudryavchik standard	3.0	8.1	1.62	50.13	60.2	-	-	Early vegetation
Form №1	2.9	7.8	2.18	48.12	57.9	-	-	Valuable nuts
Form №2	3.5	9.4	2,30	47,56	64,4	-	-	Early vegetation
Form №3	4.2	11.3	2,64	50,44	67,2	-	-	Early maturation
Sort №184	3.4	9.2	1,77	44,93	66,1	-	-	-
Seyanets №77	2.7	7.3	1,91	51,10	-	-	-	-
Seyanets№81	2.1	5.7	2.76	52.37	-	-	-	-
Seyanets №109	1,8	4,9	1,84	49,63	-	-	-	-
Seyanets №110	2.7	7,3	1,89	51,15	64,8	-	-	-
Seyanets №114	1.8	4,9	2,08	51,18	-	-	-	High Kernel output
Seyanets №134	2.9	7,8	1,97	48,43	62,5	-	-	
Seyanets №135	1.6	4,3	1,88	47,11				
Seyanets №136	2.3	6,2	1,81	51,12	66,4			
Seyanets №233	2.4	6,5	2,33	50,57	67,10			Large nuts
Seyanets №237	2.9	7,8	2,33	50,14	67,0			Late Vegetation
Seyanets №241	3.4	9,2	2,13	50,2	68,4			High Fat content
Seyanets №244	3.6	9,7	1,97	50,44	66,9			
Seyanets №245	2.8	7,5	1,93	50,46	63,8			Late vegetation
Seyanets№252	3.9	10,5	2,07	44,69	66,7			
Seyanets №253	3.4	9,2	2,17	48,35	66,9			
Seyanets №274	4.8	13,0	2,06	50,60				
Seyanets №276	4.8	13,0	1,92	48,84				

Seyanets №282	3.7	10	1,95	45,91	64,7			Late flowering
Sort №184	4.4	11,9	1,88	46,06				

The data in Table 2.2 show that forms No. 2,3 are distinguished by a comparative yield, seedlings No. 252, 253, 274, 276, 282, varieties No. 184, etc. - 3.2 -4.4 kg per bush or 9.2-13.0 kg/ha. The lowest yield was recorded in seedlings No. 109, 114, 135, etc. - 4.9 ts/ha.

In terms of average weight of hazelnuts, all forms exceed the standard. Many nuts (no. 3, 77, 81, 110, 114, 279, etc.) exceed the standard in terms of kernel and fat content (%). In the conditions of the free zone, it is recommended to transfer to GSI from valuable forms No. 2 and 3, which are not affected by diseases and pests of vegetative and generative organs of walnut.

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