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## USES *Eriobotrya japonica* (Thunb.) Lindl. IN GREENING IN AZERBAIJAN

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## ИСПОЛЬЗОВАНИЕ *Eriobotrya japonica* (Thunb.) Lindl. В ОЗЕЛЕНЕНИИ В АЗЕРБАЙДЖАНЕ

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*Abstract.* Information is provided on the structure, reproduction and decorative properties of *Eriobotrya japonica* (Thunb.) Lindl. In Absheron it is used as an ornamental plant. The plant blooms and bears fruit within 7-8 months; 6-7-year-old trees begin to bear fruit. This is a light-loving plant. Easily propagated by seeds. It is advisable to use the plant as a promising species in landscaping, landscape architecture and horticulture, taking into account the characteristics of its flowering and fruiting. The biological and ecological characteristics of the plant are analyzed.

*Аннотация.* Приведены сведения о строении, размножении и декоративных свойствах *Eriobotrya japonica* (Thunb.) Lindl. В Абшероне используется как декоративное растение. Растение цветет и плодоносит в течение 7–8 месяцев, плодоносить начинают 6–7-летние деревья. Это светолюбивое растение. Легко размножается семенами. Целесообразно растение использовать как перспективный вид в озеленении, ландшафтной архитектуре и садоводстве, учитывая особенности цветения и плодоношения. Анализируются биологические и экологические особенности растения.

*Keywords:* *Eriobotrya japonica*, Absheron, greening, landscape, decorative.

*Ключевые слова:* мушмула японская, Апшерон, озеленение, ландшафт, декоративность.

Decorative plants are widely used in the construction of parks and gardens in our country. *Eriobotrya japonica* (Thunb.) Lindl., popularly known as ‘Musmula’, is one of the plants with a decorative appearance throughout the year and valuable fruits in landscape architecture [1, 7].

This plant has a very beautiful appearance from a decorative point of view. *Eriobotrya japonica* (Thunb.) Lindl. is planted and cultivated as a decorative plant in urban parks and streets in the protection of greenery in the dry subtropical climate of Absheron. The species *Eriobotrya japonica* (Thunb.) Lindl. is widespread due to the beautiful appearance of its trees and the quality of its fruits. One of the main characteristics of this tree is that it is evergreen. It does not shed its leaves

in winter. The average height can reach up to 10 meters. From a decorative point of view, it has a very beautiful appearance. I would like to mention that especially those planted with stilts are intolerant to very cold weather. But those grown from seeds and fenced can withstand harsh winters [3].

#### *Materials and methods*

Research were carried out on the *Eriobotrya japonica* in the Absheron area and in the experimental field of the Institute of Dendrology. Phenological observations on the studied species were studied with reference to standard methods used in botanical gardens [5].

#### *Conclusion and discussion*

*Eriobotrya japonica* (Thunb.) Lindl. is naturally distributed in Central China, North India, Himalayas, and cultivated in Mediterranean countries and other subtropical climate zones of the world. At the end of the 19th century, it was brought from Japan to the Black Sea coast and the subtropical zones of Georgia, and from 1930 to Azerbaijan. It is successfully cultivated as one of the main elements of the landscape in most regions of Azerbaijan [1].

It is a light-loving plant. In many regions of Azerbaijan, it is found in parks and gardens, in the greenery of the streets [2].

*Eriobotrya japonica* (Thunb.) Lindl. belongs to the genus *Eriobotrya*. It is an evergreen, 5-10 m tall, round-wide umbrella-shaped tree. It can grow up to 5 m in Absheron conditions. The leaves are quite large (length up to 40 cm, width 10-15 cm), dark green on top, smooth, and covered with felt-like hairs on the bottom. The edges are finely serrated. The flowers are white, fragrant, in erect clusters. It is a monoecious, bisexual plant [1].

The plant does not shed its leaves in winter. From a decorative point of view, it has a very beautiful appearance (Figure 1).



Figure 1. Flowering of *Eriobotrya japonica* (Thunb.) Lindl. tree

*Eriobotrya japonica* in Absheron area blooms in November-December and fruits ripen in May-June. Its dark yellow fruits are very tasty. Its fruits contain 87.5-90.2 percent water, 0.23-1.36 percent malic acid, 10.6 mg percent vitamin C, and 7-14.2 percent sugar [4].

As a result of ripening, sugar and malic acid are reduced, and a small amount of alcohol and acetic acid is produced [6]. Fruits with a sour taste contain 1-4 large brown seeds (Figure 2).

*Eriobotrya japonica* is cultivated mainly as an ornamental plant in Absheron. The fact that the plant flowers and fruits for 7-8 months in Absheron increases its decorative value. In Absheron (Baku), 6-7-year-old trees begin to bear fruit. It is a light-loving plant. It is easily propagated by seeds. If the seeds are planted immediately after eating the fruits, the percentage of seed germination is high [3].

The fruit has a different taste when first picked. After a while, it becomes soft and delicious. Compote, jam, marmalade, pastilla, powidl are made from its fruit. Its fruit is rich in carotene and vitamin C, as well as minerals such as iron, phosphorus, calcium, etc. reduces thirst, regulates blood circulation, stops diarrhea, normalizes liver function and eliminates stomach inflammation. With its antioxidant effect, it allows the removal of toxic substances.

In addition to the cooling effect and taste of the fruit, studies are also being conducted to prevent skin cancer. It is a must-eat fruit during pregnancy. Because it prevents miscarriage and is rich in minerals. It also reduces back pain. It expels excess fluid and is suitable for those who want to lose weight. Japanese squash contains vitamin A. This can help keep your eyes healthy. Its fruit is even used to lower blood pressure.



Figure 2. Fruits of *Eriobotrya japonica* (Thunb.) Lindl. tree

A large number of *Eriobotrya japonica* trees have been planted in Azerbaijan, especially in the capital Baku. *Eriobotrya japonica* is the majority of the trees in front of the building of Baku City Executive Authority (Figure 3).

In our country, *Eriobotrya japonica* species is planted and cultivated due to its beautiful appearance and the quality of its fruits. If the planting scheme is 4×6 m, with 600 plants per hectare, one 5-7-year-old *Eriobotrya japonica* tree can yield 12-15 kg per year. With agrotechnical care, 1 hectare of *Eriobotrya japonica* L. garden can be harvested from 7 to 9 tons per year.

From the sale of this product at the market price (1-2 manats), it is possible to get 7-14 thousand manats for harvesting 12 kg of crops, and 18 thousand manats for harvesting 15 kg of crops. The propagation and cultivation of *Eriobotrya japonica* in large areas can bring great income to the economy of our country.



Figure 3. *Eriobotrya japonica* (Thunb.) Lindl. species

#### Conclusion

As a result of the conducted scientific research, it was found that the species *Eriobotrya japonica* adapts well to the climatic conditions of Azerbaijan, and the reproduction of Absheron in the dry-subtropical climate gives effective results.

It was determined that when agrotechnical care was provided, its height and development were normal, and there was no need for special care in its cultivation.

Thus, it is appropriate to use *Eriobotrya japonica* as a promising plant in greening, landscape architecture, and horticulture, taking into account its flowering and fruiting characteristics.

#### References:

1. Mekhraliev, A. A. (1970). *Istoriya issledovaniy fauny Azerbaidzhana*. Baku. (in Russian).
2. Asadov, K. S., Mirzaev, O. Kh., & Mamedov, I. F. (2014). *Dendrologiya*. Baku. (in Azerbaijani).
3. Askerov, A. M. (2006). *Vysshie rasteniya Azerbaidzhana*. Baku, 2. . (in Azerbaijani).
4. Gubaev, A. G. (1991). *Rasteniya, ispol'zuemye v narodnoi meditsine Srednei Azii, i ikh primeneniye*. Ashkhabad. (in Russian).
5. Shul'ts, G. E. (1966). *Metody fenologicheskikh nablyudeniy pri botanicheskikh issledovaniyakh*. Moscow. (in Russian).
6. Akhmedov, A.-D. I., & Karasharly, A. S. (1982). *Tovarovedeniye plodov i ovoshchei*. Baku. (in Russian).
7. Voaides, C., Radu, N., Birza, E., & Babeanu, N. (2021). Medlar - A comprehensive and integrative review. *Plants*, 10(11), 2344. <https://doi.org/10.3390/plants10112344>

#### Список литературы:

1. Мехралиев А. А. История исследований фауны Азербайджана. Баку: Элм, 1970. 52 с.
2. Əsədov K. S., Mirzəyev O. X., Məmmədov İ. F. *Dendrologiya*. Bakı, 2014.
3. Əsgərov A. M. *Azərbaycanın ali bitkiləri*. Bakı: Elm, T. II. 2006. 244 s.
4. Губаев А. Г. Растения, используемые в народной медицине Средней Азии, и их применение. Ашхабад: Изд-во ЦК КПТ, 1991. 80 с.
5. Шульц Г. Э. Методы фенологических наблюдений при ботанических исследованиях. М.; Л.: Наука, 1966. 103 с.

6. Ахмедов А.-Д. И., Карашарлы А. С. Товароведение плодов и овощей. Баку: АЗИНХ, 1982. 90 с.

7. Voaides C., Radu N., Birza E., Babeanu N. Medlar—A comprehensive and integrative review // Plants. 2021. V. 10. №11. P. 2344. <https://doi.org/10.3390/plants10112344>

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