

UDC 582.982:581.15:631.541.37
AGRIS F40

https://doi.org/10.33619/2414-2948/87/04

***Momordica charantia* L. INTRODUCTION**

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ИНТРОДУКЦИЯ *Momordica charantia* L.

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Abstract. The article deals with the introduction of *Momordica charantia* L. plant in Nakhchivan. This plant was discovered to be a new species for the flora of the Nakhchivan. *Momordica charantia* L. has fully adapted to the soil and climatic conditions of the area and has completed its vegetation period. The seeds of the plant were obtained, and it was recommended to use them taking into account the farming characteristics of the species.

Аннотация. Рассматривается процесс интродукции *Momordica charantia* L. в городе Нахичевань. Это растение является новым видом для флоры Нахичевани. *Momordica charantia* L. полностью адаптировалась к почвенно-климатическим условиям местности. Имеет полный вегетационный период развития. Получены семена растения. Авторами рекомендовано использование семенного размножения растения с учетом агротехнических особенностей вида.

Keywords: plant introduction, new species, pumpkins, berries, *Momordica charantia*.

Ключевые слова: интродукция растений, новые виды, тыквы, ягоды, индийский огурец.

Introduction

Favorable relief conditions of the Nakhchivan Autonomous Republic, peculiar soil-climatic features, abundance of sunny days have influenced the formation of vegetation with rich flora here. The species diversity and endemism of these lands, which have a rich biodiversity, is primarily due to the fact that the plants distributed in this area have different ecological conditions and the diversity of physical and geographical conditions in the process of natural historical development. From this point of view, plants from different regions, even neighboring and foreign countries, grow normally in such soil-climatic conditions.

The study and application of the properties of introduced plants is of both experimental and scientific interest. The transition to the flowering and fruiting phases also depends on the growing conditions (i.e., altitude, temperature, agro-technical measures, etc.). One of the main issues is to determine the degree of adaptation of the introduced species to the new climatic conditions and to study the impact of the main ecological factors on the plant in the new ecological conditions. The

study of these properties of introduced plants is of great importance in future scientific research with such plants.

Materials and methods

Proper and timely implementation of agro-technical measures is of great importance in the introduction of plants and the following agro-technical measures have been used [1]:

- Collection of plant samples from nature and storage before planting (time and method of storage);
- Site selection, soil preparation for planting.
- Preparation of seeds for sowing.
- Ploughing and sowing (time and scheme);
- Irrigation.
- Agrotechnical care of the obtained twigs.
- Disease and pest control measures.
- Seed collection and propagation.

The timing and method of collecting plant samples from nature and storing them before planting is one of the means of influencing their future development (<https://clck.ru/33QOTA>).

Discussion and conclusions of the study

The seeds of the *Momordica charantia* L. plant, which is not found in the cultural flora of the Autonomous Republic, were brought from the Balikesir region of the sister country Turkey. In Nakhchivan, seeds were planted in Huseynov Habib Tayyar's yard in May. After receiving twigs, the plant was agro-technically maintained (Figure 1). Thus, preventative measures were taken against diseases and pests, the plants were irrigated in time and fertilizer norms were given correctly. The plant bloomed in July. Fruits began to form in August, and in September the fruits were fully ripe.



Figure 1. *Momordica charantia* L.

Momordica charantia L. belongs to the genus *Momordica* (*Momordica*) of the family *Cucurbitaceae* Juss. In regions with tropical climates, the Amazon Basin, East Africa, Asia, the Caribbean, and the tropics and subtropics of Central America, 60 species of wild plants are found,

mainly twining grasses. In South America and the Far East, it is cultivated as a food and medicinal plant. Yellow and elongated *Momordica charantia* L. which differs from the red pomegranate, is native to India. It is grown in the open in Russia and Crimea as an ornamental plant. In Azerbaijan, this plant is also found in pomegranate orchards in Goychay.

In European countries, they are called bitter melon, bitter pumpkin, African cucumber, balsam apple or balsam pear. The trunks of the pomegranate are very thin and long, they can be 5 metres or more in height. The carved light green leaf plate is quite large. When in contact with it, you can get a little burn like a nettle.

Momordica charantia L. a plant in the form of an annual or perennial ivy, blooms in summer. The edges are soft, fan-shaped, toothed leaves. The flowering period of the pomegranate begins in the early stages of the growing season. Its flowers are bisexual with bright yellow petals. Male flowers on long stalks open for the first time. They emit a scent reminiscent of the scent of jasmine. Then more female flowers begin to bloom. They are smaller than males and have shorter stalks. Pollinating fragrant flowers is done by insects, so when they grow indoors, you will have to pollinate them by hand to get fruit.

The formation of the ovary and the further development of the fruit is very fast. The fresh fruit is covered with a convex, uneven crust with small hairs on it. Do not touch them with bare hands, you can get a light but unpleasant burn. As they mature, they elongate and take on an elongated oval shape, reaching a length of 20 cm and a diameter of 7 cm. The hairs fall off the fruit and the skin turn yellow (yellow-orange). When the fruit matures, the skin is divided into 3 separate pieces, folded back, and a large number of red-brown or white seeds appear. The seeds are 7–10 mm long and flat [2].

The taste of the outer shell is close to that of an ordinary pumpkin, which is slightly bitter. The fruits contain dark ruby pericarp seeds, the taste is close to dates. The appearance of the fruit can be judged by its appearance. It begins to crack from the bottom, the thick petals open like a flower folded upwards. The pericarp seeds, which can be up to 30 per fruit, are similar in appearance to pomegranate seeds (Figure 2).

In Latin, momordica means to bite. *Momordica charantia* L. is widely used in pharmacy. If the *Momordica charantia* L. is provided with plenty of water and sun, it can be grown even in the pot. Since the juice of a plant that grows and bears fruit in the early spring is bitter, it is impossible to eat it when it is not ripe enough. The fruits collected in the fall are used in the preparation of oil.

Pomegranate used in the treatment of most diseases, but also has a strong effect on gastrointestinal disorders such as colitis and gastritis. Good for digestive diseases. It is also very useful for the intestines, which are considered the second brain. Experts say that a spoonful of pomegranate, honey and olive mixture a day will solve the problem of constipation in the intestines.

According to some studies, one of the benefits of *Momordica charantia* L. is to prevent tumors and maintain cell health. It is said to be especially effective in breast cancer cells. It is a natural antibiotic. All the substances in antibiotics are present in this plant. It also has very good effects on body aches. It is known that in ancient times people used this pomegranate to treat burns. Vitamin E is rich in protein and strengthens the immune system. It acts as a kind of shield against internal viruses and reduces the risk of contracting diseases. It has an anti-inflammatory effect. This pomegranate is the most beneficial for the liver in the body. It plays an important role in the regeneration and cleansing of the liver. It is also good for skin diseases and reduces body fat. It balances blood cells. When eaten in large quantities, this pomegranate renews blood cells by removing toxins from the blood. In this way, blood sugar levels are normalized and easily consumed by diabetics. Pomegranate is very useful for rheumatism and varicose veins. It also helps people to relieve rheumatic pain [3].



Figure 2. Fruits and seeds of *Momordica charantia* L.

Momordica charantia L. can be consumed by mixing it with honey. The ripe fruit is crushed in a bowl, mixed with some honey, and in the morning it is drunk on an empty stomach with 1 tablespoon. In the absence of fresh fruit, strong pomegranate seeds, which are first cleaned, are cut into small pieces and mixed with 1 kg of honey. People with diabetes are more likely to use olive oil. After 6 months of storage in pure olive oil, a tablespoon of pomegranate is mixed with the same amount of filter honey and taken on an empty stomach in the morning.

Momordica charantia L. is known as bitter or ground melon. The fruit is called "bitter melon" and is especially popular in Okinawa (Japan). According to scientists, it can also help diabetics. Researchers have found that bitter melon helps improve metabolic processes while normalizing glucose metabolism. Bitter melon is a real storehouse of vitamins and is good for the human body. They are found in all parts of it, including roots, young shoots, leaves, fruits, and seeds.

In folk medicine, the leaves are used to prepare drugs to relieve cough, hypertension and pain. Oatmeal is used to rejuvenate the skin of the face and body and added to cosmetic masks. Mild and powdered seeds are used in the fight against seasonal diseases, increase hemoglobin, strengthen immunity, heal wounds, cuts, ulcers and as a diuretic. The use of fruits improves vision, helps reduce the risk of cardiovascular disease, prevents decreased brain function.

Introduced for the first time in the region, Gomrat pomegranate (*Momordica charantia* L.) is a new species for the flora of the Nakhchivan Autonomous Republic and its full adaptation to soil and climatic conditions has been identified.

Recommendation

Taking into account the medical and economic characteristics of the plant, we recommend that it be propagated generatively and grown on family farms.

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*Работа поступила
в редакцию 05.01.2023 г.*

*Принята к публикации
12.01.2023 г.*

Ссылка для цитирования:

Gasimov H., Ganbarov D., Huseynov H., Babayev Ya., Seidov M. *Momordica charantia* L. Introduction // Бюллетень науки и практики. 2023. Т. 9. №2. С. 30-34. <https://doi.org/10.33619/2414-2948/87/04>

Cite as (APA):

Gasimov, H., Ganbarov, D., Huseynov, H., Babayev, Ya., & Seidov, M. (2023). *Momordica charantia* L. Introduction. *Bulletin of Science and Practice*, 9(2), 30-34. <https://doi.org/10.33619/2414-2948/87/04>