HSR (LONDON),
HOUGHTON STREET REVIEW JOURNAL
ISSN: 2058-5519|Impact factor-15.9
http://houghtonstreetreview.com/index.php/hsr

STUDYING VALUABLE ECONOMIC TRAITS OF FOREIGN AND LOCAL MELON VARIETIES

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Abstract: This article compares the biological and economically valuable traits of the foreign Golden Langkawi and local Obi novvot and Aravakash melon varieties. During the research, the seed germination of the varieties, the duration of the growing season, the length of the main stem, the morphological characteristics of the fruits, and the maturation periods were analyzed. According to the results obtained, it was found that the Golden Langkawi variety is characterized by earlier ripening, shelf life, and disease resistance compared to local varieties. The research results are of scientific and practical importance for the introduction of promising melon varieties into production and their use in breeding work.

Keywords: Melon, Golden Langkawi, Obinovvot, Arbakash, growing season, ripening period, main stem length, yield, variety, breeding, introduction, economically valuable traits.

Over the centuries, unique melon and watermelon varieties have been created in Uzbekistan, and melon-growing regions have been formed.

Numerous scientific studies have been conducted in our republic and abroad on the cultivation and breeding of melon crops, particularly the melon (Cucumis melon L.). These studies are aimed at studying the biological characteristics, yield, product quality, and adaptability of melon varieties to various agro-climatic conditions.

Ostonakulov [1; 2006] describes in detail the technologies for growing, storing, and processing melons and other melon crops. The author analyzed the biological characteristics of melon varieties, the duration of the growing season, and agrotechnical factors affecting yield. Modern methods for maintaining the quality indicators of melon products are also presented.

Azimov and Buriev [3; 2018] emphasized that the main selection criteria for creating promising varieties are yield, early maturity, disease resistance, and product quality in scientific works on the selection and seed production of melon crops. According to the authors, when creating new varieties, it is necessary to extensively study introduced specimens alongside the local gene pool.

Kholikulov and Narziev [4; 2020] on improving the cultivation technology of melons and gourds, it was found that the application of agrotechnical measures, taking into account the biological characteristics of the varieties, significantly increases yield.

Ostonakulov et al. [2; 2008] studied the morphological and economically valuable traits of Samarkand melons. Researchers have evaluated the genetic diversity, fruit quality, and shelf life characteristics of local melon varieties, substantiating their significance in the breeding process.

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International research also pays great attention to the genetic resources and breeding of melons. Pitrat [9; 2016] studied the genetic diversity of melons and described the economically valuable traits of varieties belonging to different regions. The author notes that the effective use of genetic resources in melon breeding is an important factor in creating new varieties.

FAO [5; 2022], the use of high-yielding and disease-resistant varieties in melon cultivation, the application of modern agricultural technologies, and the improvement of seed quality play an important role in increasing product volume and quality.

Analysis of the aforementioned scientific sources shows that the comparative assessment of the growing season, yield, shelf life, and adaptability characteristics of melon varieties is one of the important directions of selection and introduction work. In this regard, the study of economically valuable traits of the foreign Golden Langkawi and local varieties Obi novvot and Arvakash is of scientific and practical importance.

According to the results of our research conducted in 2025, the foreign melon variety "Golden Langkawi" was planted as the main variety for the purpose of introduction in the first year's conclusions. The studied melon varieties Golden Langkawi, Obi novvot, and Arakash were characterized by belonging to the medium-maturity group based on the early maturity trait (Table 1). This indicates that these varieties are close to each other in terms of the duration of the growing season.

Analysis of the varieties' vegetative development indicators showed that certain differences were observed in the number of leaves on the stem. On average, 70–120 leaves were formed in the Golden Langkawi variety, 65–130 in the Obi novvot variety, and 75–140 in the Arakash variety. A large number of leaves can have a positive effect on the active process of photosynthesis and the formation of fruit elements.

A significant difference in fruit weight was identified between the varieties. Specifically, the average fruit weight of the Golden Langkawi and Obi navvot varieties was 3–4 kg, while for the Aravakash variety, this figure reached 7–10 kg. This indicates that the Aravakash variety is distinguished by its large fruiting capacity and is of great importance in terms of market demand.

The 1000-seed weight indicator, which characterizes the largeness and fullness of the seeds, was 25–30 g for the Golden Langkawi variety, and 30–35 g for the Obi Navvot and Aravakash varieties. These results indicate that the seeds of local varieties are relatively larger.

Overall, among the studied varieties, the Aravakash variety was distinguished by fruit size and a large number of leaves, while the Golden Langkawi variety was characterized by relatively low seed weight, preservation, and earlier ripening properties identified in subsequent observations. The Obi Navvot variety occupied an intermediate position in terms of the main economic traits. The study of the economically valuable traits of these varieties is of great importance in determining the possibilities for their effective application in breeding and production practice.

Table 1.

Valuable economic traits of melon varieties

Melon varieties	**Golden Langkawi**	**Obi novvot**	**Arbakash**
Early ripeness	Medium-ripening	Medium-ripening	Medium-ripening

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Number of leaves per stem	Average 70-120	Average 65-130	Average 75-140
Fruit weight	Average 3-4 kg	Average 3-4 kg	Average 7-10 kg
Weight of 1000 seeds	25-30 g	30-35g	30-35

Furthermore, in our field experiments, the germination of seeds from local and foreign varieties was analyzed. This is because the experimental field was irrigated on April 26 and May 2, 2025, to ensure the germination of seedlings. As a result, the seeds of all varieties germinated within 6 days (Table 2).

From the appearance of the melon seedlings to the ripening of the first fruit, the growing season is divided into: early-ripening 55-80 days; mid-ripening 81-110 days and late-ripening beyond 110 days.

According to this classification, among the tested varieties, there were no 55-80-day-old early-maturing varieties. All three varieties (81-110 days) were medium-maturing.

In particular, Golden Langkawi ripened in 91 days, Obi Navvot in 96 days, and Arakash in 100 days.

Table 2.

Duration of the melon plant's growing season

Melon varieties	Sowing period	Germination, days	Maturity, days	Main stem length, cm
Golden Langkawi	25.04. 2025	6	91	295
Obi novvot	25.04. 2025	6	96	325
Arbakash	25.04. 2025l	6	100	210

The main stem length was 295 cm in the Golden Langkawi variety, 325 cm in the Obi novvot variety, and 210 cm in the Arbakash variety.

Conclusion: Based on the research results, it was established that the studied melon varieties Golden Langkawi, Obi Navvot, and Arakash belong to the medium-ripening group in terms of the growing season. It was noted that the Golden Langkawi variety ripened in 91 days and yielded fruit 5 and 9 days earlier, respectively, compared to the Obi novvot and Arakash varieties. The main stem length of this variety was 295 cm, which is shorter than that of the Obi Navvot variety and longer than that of the Arakash variety. It was also noted that the Golden Langkawi variety has high fruit shelf life and good resistance to diseases and some pests. The results of the study showed that the Golden Langkawi variety can be successfully cultivated in the soil and climatic conditions of the Andijan

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region and is recommended as a promising introduction material. At the same time, it was confirmed that the local varieties Obi novvot and Arakash are of practical importance due to their large fruit and consumer qualities.

Additional information: saving melons for winter. If you want to eat melons in winter, then our advice will come in handy.

Cut the melon into pieces and freeze them, then pack them into a bag and put them in the freezer.

Second method, jam. Of course, in this case, the beneficial properties of the melon are lost, but you can still enjoy its delicious taste. Add 50 milliliters of water, 1 lemon juice, 700 grams of sugar, and boil the syrup. Then, finely chop the melon into the jam and boil; after boiling, turn off the gas and leave for 10 hours. Repeat this process twice and cover with sterile jars.

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