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ORIGIN, DISTRIBUTION CLASSIFICATION, BIOLOGICAL PROPERTIES, SIGNIFICANCE OF INDAU

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Abstract. This article provides complete information on the origin, distribution, classification, biological properties, importance of the indau plant and the effect of fertilizers on it using foreign and domestic literature. The importance of the indau plant in the national economy, medicinal properties and the value of its composition are studied. For treatment, its stem, leaves, flowers, and seeds are used. The above-ground part is fresh, and the juice extracted from the leaves is used in medicine as a vitamin, anti-spasmodic, antibacterial, mild diuretic, appetite stimulant, and digestive, expectorant. A decoction of the seeds is used to dissolve kidney stones.

Keywords: indau plant, vitamin, antibacterial, mineral fertilizers, soil, medicinal properties, dry matter.

Introduction. Today, in many countries of the world, special attention is paid to the cultivation of the Eruca sativa Mill. plant as a salad and oilseed crop. In particular, in the Russian Federation, Italy, France, Germany, Israel, the United States of America and Canada, it is grown as a salad vegetable crop, while in Egypt, Pakistan and India, it is grown on large areas as an oilseed crop. This crop is called by different names in different countries of the world (eruca, rucola, rocket, arugula, rauke and others). In particular, in Italy, it is grown under the name rucola and is used to prepare more than 200 types of salads. The Eruca plant is considered a very rich plant in terms of composition, and its introduction to the conditions of our republic is urgent.

In recent years, much attention has been paid to the cultivation and export of so-called "yellow-green" vegetables, such as spinach, which are consumed as leafy vegetables. Great Britain is leading in this regard, followed by Italy, France, Spain, Germany and Portugal. Numerous scientific studies have confirmed the great importance of yellow-green vegetables in maintaining a high level of human vitality and increasing their resistance to diseases, especially infectious diseases. This is explained by the large amount of provitamin A-carotene they contain. At the same time, although yellow-green vegetables belong to different families, they are very similar in their frost resistance and ability to grow in different soil conditions, and their abundance is ready for consumption in early spring, when other vegetables have not yet ripened. In particular, the introduction of this vegetable group into the market is of great importance in satisfying the demand for vegetables of the population of our Republic in the autumn, winter, and spring seasons.

In recent years, our republic has been implementing comprehensive measures to ensure food security of the population, fully satisfy the demand for vegetable products, diversify agriculture, make more rational use of land and water resources, and increase the income of farmers and farms by increasing the volume of export-oriented production. The 3 priority areas 30 set by the Decree of the President of the Republic of Uzbekistan No. PF-60 dated January 28, 2022 "On the Development Strategy of a New Uzbekistan for 2022-2026" set the task of "increasing the income of farmers and farmers by at least 2 times through intensive development of agriculture on a scientific basis, and bringing the annual growth of agriculture to at least 5 percent." Based on the above, the introduction of the non-traditional crop Eruca sativa Mill., which contains a number of biologically active substances, antioxidant selenium and biological iodine, as well as a large amount of macro and microelements, is of great importance in increasing the assortment of

vegetable crops in our republic and satisfying the population's demand for iodine, and is considered one of the most urgent tasks today.

RESEARCH RESULTS AND DISCUSSION

Eruca sativa Mill. was first described in 1753 under the name Brassica vesicaria by Carl Linnaeus in Plantarum Species, Volume 2, p. 668. The genus Eruca was subsequently published in 1754 by Philip Miller in The Gardeners Dictionary..., 4th edition, Volume 1. The genus Eruca was described in 1802 by Antonio José Cavanilles in his Descripción de las Plantas [1].

The Latin adjective sativa in the plant's binary name is derived from satum, a synonym for the verb sero, meaning "to sow." This indicates that the seeds of the plant were sown in gardens. Some botanists consider it a subspecies of Eruca vesicaria. Others cannot distinguish between the two [2]. According to modern views, the plant belongs to the kingdom of Eukaryotes, the kingdom of Plants, the division of flowering plants, the class of dicotyledons, the family of Brassicaceae, the order of Indau, and the genus Indau (or Indau ecma) [3.]. It is found wild in southern Africa, southern and central Europe; in Asia, from Asia Minor to Central Asia, and in India. It is found in the European part of Russia, in the foothills of the Caucasus, and in Dagestan [4]. A large number of data indicate that the center of origin of indau is North Africa [6]. This is also confirmed by the work of some foreign scientists published in recent years [5]. Ye.N. Sinskaya (1925, 1928, 1969) confirmed that indau originated in the Mediterranean countries. In ancient Greece and the Roman Empire, it was consumed as a salad and vegetable crop [7.]

According to N.I. Vavilov (1926), eruca is often found in flax fields and is used as an oilseed crop. It is widespread in Central and Asia Minor, India, the Mediterranean, Africa, and Europe. It was cultivated as both a salad and vegetable crop in the Mediterranean and Central European countries until 1000 BC [6.]. According to Ye.N. Sinskaya (1939), D.D. Brezhnev, and O.N. Korovina (1981), only one of the five species identified by Ye.N. Sinskaya - Eruca sativa Mill. - is found in the former USSR [8]. In Transcaucasia and Armenia, Eruca sativa is cultivated as an oilseed crop and is called solobur. It is noted that it occurs as a weed among various spring crops [9.].

However, in vegetable growing manuals and textbooks, both abroad and in our country, there is no information on the technology, biology and morphology of indau cultivation and its use over the past 100 years [12]. Importance in the national economy. The aboveground part, leaves and seeds are used. The aboveground part is used as a diuretic, milk-increasing digestive agent in Asian and Western European countries. In Indian medicine, the leaves are used as a diuretic, antitussive, and warming agent. They are also used as a salad and seasoning for food. The seeds are warming, expectorant, skin wounds, and a diuretic, and are used as mustard. The oil is consumed both as a medicinal agent and as a medicinal agent. The indau plant is rich in dietary fibers such as hemicellulose, cellulose, and lignin. They are not digested during the digestive process. However, they have the ability to cleanse the body of harmful substances and waste and reduce the level of cholesterol in the blood.

It is used as an oilseed crop in various Mediterranean countries, especially in dry regions of Asia, for its salad use. Eruca sativa Mill. and Eruca sativa var. vesicaria (L.) Cav. (D.Pignone, 1997, Kharitonova L.F, Vakhrusheva T.E, Konkova N.G, 2001). In addition to the leaves, the flowers, stems and seeds are also used in salads and side dishes. They have a stronger mustard pepper flavor than the leaves. In addition, it is used to make a vegetable paste that is added to meat (Morales M., 2002). Because of its beautiful leaves, it is also used as an ornamental plant. (Pivovarov V.F., 2006)

Classification. Eruca sativa Lam. is a crop belonging to the Brassicaceae (Cruciferae) family, the Adans order. According to Sinskaya E.N. (1928), there are from 4 to 10 species. The following 5 species are distinguished as true and natural.

1. Eruca sativa (Gars) Lam;
1. Eruca visicaria (Cav);
2. Eruca pinnatifuda (Desf.);
3. Eruca situlosa Boiss. Et Reut;
4. Eruca loncholoma.

Valuable composition. According to M.A. Levinsky, V.N. Sychev, O.B. Signalov and others (2001), the leaves of the indau contain 146.5% ascorbic acid, which is very high compared to other crops of the Brassica family. In addition, it contains 11.9% of substances, 212.3% of nitrates. Feeding with nitrogen fertilizers accelerates the growth and development of indau. However, with a lack of light, nitrogen fertilizers lead to a large accumulation of nitrates and a deterioration in the chemical composition of the leaves.

Medicinal properties. The stem, leaves, flowers, and seeds are used for treatment. The fresh above-ground part and the juice extracted from the leaves are used in medicine as a vitamin, anti-sinus tonic, antibacterial, mild diuretic, appetite stimulant, digestive aid, and expectorant. A decoction of the seeds is used to dissolve kidney stones.

Conclusion.

In conclusion, it can be said that the indau plant has been known since ancient times, and it has been known as a vegetable in many countries and a wild plant in semi-arid countries. Due to the valuable composition and medicinal properties of this plant, it has been widely used in folk medicine and continues to retain its value today. In addition, feeding the indau plant with nitrogen fertilizers accelerates the growth and development of the indau.

However, when there is a lack of light, nitrogen fertilizers lead to a large accumulation of nitrates and a deterioration in the chemical composition of the leaves.

References

1. Литвинов, С.С. Научные основы современного овощеводства. / С.С.Литвинов - М.: Россельхозакадемия, 2008, С. 7 - 17.
2. Мухин, В.Д. Приусадебное хозяйство / В. Д. Мухин, А. Б. Малхасян. - М.:
3. Эксмо, 2000. - 386 с.
4. А. Н. Папонов // ВИИИ международный симпозиум «Новые и
5. нетрадиционные растения и перспективы их использования». Т. ИИИ. - М.: Изд-во РУДН, 2009. - С. 207-209.
6. Папонов А.Н., Рукола - новое салатное растение для открытого и
7. защищенного грунта / Папонов А.Н., Т. Казанцева // Огород для здоровья. - 2001. - № 1 . - С . 2 1 .
8. Куршева Ж.В Биологические особенности и основные приемы возделывания индау посевного, двурядника тонколистного и кресс-салата в условиях Московской области / Куршева Ж.В : автореф. дисс. ... канд. с.-х. наук. - М., 2009. – 120 с.

9. Ипатьев, А.Н. Овощные растения земного шара. / А.Н. Ипатьев —Минск:
10. Вышэйшая школа, 1966, С. 52 — 5
11. Синская // Труды по Прикладной Ботанике и Селекции. Том. 14.-Л., 1925.-
12. С. 149-17
13. Синская Э.Ҳ. Индау. Малоизвестное масличное и салатное растение (Эруца сатива Лам.) / Е. Н. Синская // Труды по Прикладной Ботанике и Селекции. Том. 14.- Л., 1925.-С. 149-176
14. Синская, Э.Ҳ. Масличные корнеплоды семейства Сруциферае / Е. Н.
15. Синская // Труды по прикладной ботанике, генетики и селекции. Том 19. Вып. 3. - 1928. - С. 20-30
16. Синская // Труды по Прикладной Ботанике и Селекции. Том. 14.-Л., 1925.-
17. С. 149-17
18. Синская Э.Ҳ. Индау. Малоизвестное масличное и салатное растение (Эруца сатива Лам.) / Е. Н. Синская // Труды по Прикладной Ботанике и Селекции. Том. 14.- Л., 1925.-С. 149-176
19. Синская, Э.Ҳ. Масличные корнеплоды семейства Сруциферае / Е. Н.
20. Синская // Труды по прикладной ботанике, генетики и селекции. Том 19. Вып. 3. - 1928. - С. 20-30