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REYNOUTRIA SACHALINENSIS (F. SCHMIDT) NAKAI – THE HISTORY OF RESEARCH

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Abstract. *The article describes some historical data regarding the research and the introduction of the species *R. sachalinensis*, as a plant with multiple uses, in the Republic of Moldova and worldwide. Because it has been characterized as a species with high biological productivity and rich chemical composition, the research on *R. sachalinensis* is of interest to many specialists in the field. Since 1859, it has been periodically mentioned in literature as a wonder species, which can yield large amounts of fresh mass.*

Key words: *Sakhalin knotweed, history, introduction, adaptation.*

REYNOUTRIA SACHALINENSIS (F. SCHMIDT) NAKAI – ISTORICUL CERCETĂRII

Rezumat. *În lucrare sunt descrise unele date istorice referitor la cercetarea și introducerea speciei *R. sachalinensis*, ca plantă cu utilitate multiplă, în condițiile Republicii Moldova cât și pe plan mondial. Caracterizată ca specie cu productivitate biologică înaltă și compoziție chimică bogată, cercetarea acestei specii prezintă interes pentru mulți specialiști din domeniu. Încă din anul 1859 apar date în literatura de specialitate despre această specie minune, ce poate forma recoltă mare de masă proaspătă.*

Cuvinte cheie: *Hrișca-de -Sahalin, istoric, introducere, adaptare.*

Introduction

The flora of the Republic of Moldova includes about 1829 species of plants, adapted to various conditions of temperature, humidity and types of relief [2]. The introduction of new, non-traditional perennials, which offers the possibility of using them in various branches of agriculture and animal husbandry, also creates a long-term source of high-quality raw material of plant origin. Sakhalin knotweed, *Reynoutria sachalinensis* (F. Schmidt) Nakai, which is an herbaceous perennial, is one of these non-traditional crops. The usefulness of this species as a forage, medicinal, honey, ornamental, energy and food crop, due to its technological and economic parameters, has been demonstrated over the years by many researchers. This species belongs to the Polygonaceae family and is native to East Asia (Hokkaido, Sakhalin and Kuril Islands, Korea, Taiwan) [11].

Sakhalin knotweed was introduced in the "Alexandru Ciubotaru" National Botanical Garden (Institute) in 1982 by A. Teleuță, PhD, from the collection of the Vladikavkaz Agricultural Institute, North Ossetia. Over the years, the plants have shown high growth rate and high adaptive potential.

Results and Discussions

Under the climatic conditions of the Republic of Moldova, *R. sachalinensis* grows as a perennial, herbaceous plant with 3-5 m tall stems, wide-oval leaves, small, cream-white flowers, produced in panicle inflorescences. The fruits are brown achenes. It reproduces vegetatively, by rhizomes or pieces of aerial stems.

Sakhalin knotweed was discovered by Dr. Weyrich on the west coast of Sakhalin, an island situated close to the east coast of Siberia. It was originally named *Polygonum sachalinense* by Friedrich Schmidt. From a botanical point of view, it was described by Maximovich C. in "Primitiae Florae Amurensis" published in Vol. IX of „Mémoires présentés a l'Académie Impériale des Sciences de St. Pétersbourg" in 1859 [4]. The taxonomy of this species has been over the years a subject of discussion for various authors, who included it in various genera (*Polygonum*, *Reynoutria*, *Fallopia*). According to The Plant List [8] (A working list of all plant species), currently, the accepted name is *Reynoutria sachalinensis* (F. Schmidt) Nakai., 1919, Rep. Veg. Isl. Oorungoto or Dagelet Isl. comb. nud. Mori, Enum. Pl. Cor. 135 (1922), comb. Nud. In Rigakkai 24: 293 (1926) [12].

In 1869, *R. sachalinensis* was introduced to the Saint Petersburg Botanical Garden, where it was researched as a forage and ornamental plant, and later distributed in Europe [5, 6, 11]. In the same year, it was recorded as a plant introduced in Germany, then, in 1896, in Great Britain [15]. In 1882, it was mentioned in The Garden (London) as a plant that had not yet been cultivated "except for Botanical Gardens". In 1893, French researchers turned their attention to *R. sachalinensis* plants, which could be characterized as valuable fodder plants under the unfavorable climatic conditions recorded at that time [4].

In 1901, it was introduced in Romania, in Bucharest-Herăstrău [7]. In the Czech Republic, the first specimen was collected in 1921. In many countries (the Netherlands, France, Belgium, Poland, Sweden, Russia, Bulgaria etc.), it was reported as a plant escaped from gardens [5].

As a result of the breeding research conducted at the "Al. Ciubotaru" National Botanical Garden, the native cultivar 'Gigant' was created and approved, being registered in 2012, in the Catalogue of Plant Varieties in the Republic of Moldova. This cultivar is characterized by high productivity (about 12.4 kg/m² fresh mass) [9], rich biochemical content, high growth rate and tolerance to temperature fluctuations.

Conclusions

Reynoutria sachalinensis is considered a multi-purpose crop, described by many researchers as a promising, long-living plant with high biological productivity. It grows and develops well in many countries of the world. The first descriptions in the scientific

literature date back to 1859, where it was mentioned as a plant with high fresh mass productivity.

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