

**CONTRIBUTION TO THE STUDY OF *FAGOPYRUM ESCULENTUM*
MOENCH IN THE REPUBLIC OF MOLDOVA**

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The flora of the Republic of Moldova is rich in species of honey plants, with high productivity of honey, plants that provide food for insects throughout the year, except for the cold season. In the collection of Honey and Forage Plants of the "Alexandru Ciubotaru" National Botanical Garden (Institute) (NBGI), there is a wide range of valuable plants, with multiple potential uses, in particular – as honey crops. Among them, there are species that start vegetating in early spring and start blooming in early May. The study of flowering dynamics allows highlighting the generative stages of plants and the most active periods when honey insects collect nectar and pollen. *Fagopyrum esculentum* Moench (family Polygonaceae Juss.), common buckwheat, is a valuable herbaceous, annual plant, with edible seeds, included in the group of pseudocereals. It is also cultivated as a honey plant. Depending on the weather conditions, in 12-14 days after sowing, the cotyledons of the seedlings emerge on the soil surface. At this moment, the vegetative phase begins, consisting of the seedling, immature and virginal stages, characterized by the active growth of the vegetative organs of plants (stems, lateral branches and leaves), which lasts about 20-25 days from the emergence of seedlings. Buckwheat plants can reach up to 125 cm in height, the stem is erect and branched. Usually, there are 6-12 leaves on each branch. The generative phase begins with the development of floral buds. Flowering is long, staggered and lasts about 33-48 days. In the full flowering stage, on a medium-sized shoot (85 cm), with 3-4 branches, there are 22-24 inflorescences at different stages of development. On one inflorescence, at the same time, there can be flower buds, flowers and developing fruits. The number of flowers on a shoot varies between 375 and 400, and the fruits – about 92-125. A buckwheat plant can produce around 1-1.5 thousand flowers [1]. The flowers are attractive to pollinating insects, as a source of nectar and pollen, especially under conditions of high temperatures and humidity. A flower lives for about 24 hours and produces up to 0.1 mg of sugar [2]. Pollinating insects are more active on buckwheat flowers until 11.00 on days with high temperatures. Common buckwheat, *Fagopyrum esculentum* Moench, can be sown as a primary crop or as a successive crop, the potential honey productivity reaches values of 70-90 kg honey/ha [1]; the dehulled seeds contain 12.6% protein, large amounts of threonine and lysine, vitamin E, folic acid. The identification, mobilization and acclimatization of new high-potential honey plants, will contribute to the expansion of the range of honey crops and ensure a continuous source of pollen and nectar, very important for the health and well-being of honeybee families.

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References: 1. Бурмистров А., Никитина В. Медоносные растения и их пыльца. Москва: Росагропромиздат. 1990. 192 с.; 2. Нестеров П., Пинчук Л., Леонтьев Г. Медоносные ресурсы Молдавии. Кишинев. Картя Молдовеняскэ. 1988.205 с.

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