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**SHOTARA— (FUMARIA VAILLANTII LOISEL.) SEED PRODUCTIVITY AND ITS
DISTRIBUTION AND RESERVES**

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ABOUT ARTICLE

Key words: Seed productivity, Shotara (*Fumaria vaillantii* Loisel.)

Abstract: This article discusses seed productivity of Shotara (*Fumaria vaillantii* Loisel.) and its distribution and reserves.

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INTRODUCTION

Decree of the President of the Republic of Uzbekistan Shavkat Mirziyoyev dated 10.04.2020 No.) and Resolution No. PQ-4901 of 26.11.2020 (Measures related to expanding the scope of scientific research on cultivation and processing of medicinal plants, development of their seed production) about) was signed. These decisions indicate that special attention was paid to medicinal plants. After all, our lush country grows many types of medicinal plants in its bosom.

THE MAIN RESULTS AND FINDINGS

Shotara (*Fumaria vaillantii* Loisel), a member of the family of shotaras, contains the drug "Protopin hydrochloride" and is used in the pharmaceutical industry for liver diseases. Therefore, the bioecology of this species is being studied.

Shotara— *Fumaria vaillantii* Loisel., Shotarato the family Fumariaceae belongs to one yearweed. Stem grows upright, branchy, height 10-30cm. Leaves arranged in a row, divided into two pinnae, long banded. Flowers pink with purple tips shingle to the bouquet collected. Fruits spherical one seeded nut. The root- read it. Blooms and seeds in April-July. Lawns It's late in the fall, early in the spring appears in Central Asia spread out. Lalmi and as a weed irrigated cereal crops between cotton grows in the fields. Also abandoned land, residences, road, ditch collars, field edges, avenues, the garden and in the vineyards occurs.

Chemical composition. Shotara contains organic acid, phenol, alkaloids 0.2-0.6%, spices 2.9%, tar 4.7%, vitamins C and K. The taste is peculiarly bitter. Chemical composition: Shotara contains organic acid, phenol, alkaloids 0.2-0.6%,

Importance. Shotara warms the blood and dissolves blood clots. Eases breathing, improves stomach function, clears liver from congestion. Basically the leaves of the plant are picked and dried, but often all parts are used. The alkaloid contained in it slightly accelerates the pulse, intoxicates and stimulates the appetite. It is used in women's diseases, intestinal diseases, malaria, jaundice, uterine and pulmonary tuberculosis. It is used to treat chronic internal bleeding, abdominal pain and bronchitis.

Seed productivity. Each plant in the field, whose seed yield is estimated, has its own morphological characteristics. Depending on the branching, the number of shingles (ball fruits) and their length are different. If 78+2.95 shingles appear in *F. vaillantii* in the 1st field, 21+0.93-30+1.10 shingles appear in the 2-3rd field, 7-18 fruits are produced per shingle. In field 4, because the plant grew in natural conditions, its pods and pods are slightly less, that is, it produced 10+0.36 pods, 5-13 fruits per pod.

In Zomin district, the total number of shingles of the *F. vaillantii* ecoform reached 9-14, and 5-13 fruits were born on each shingle. During the general flowering period, the average number of *F. vaillantii* in 1 field was 820+47.69: 262+10.33-344+13.21 in 2-3 fields. ; 94+_3.61 flowers appeared in 4 fields. Until the end of flowering, most of the flowers fall off slowly, and the remaining flowers are 497+34.83 in 1 field; 146+8.53 -195=11.96 in fields 2-3; 52+2.80 in field 4 and 64+3.40 seeds on average in the ecoform of *F. vaillantii*. The number of ripe fruits and seeds is an important indicator and a criterion for determining the true seed yield (SJV). It is lower than the potential productivity (PUM) (Ashurmetov et al. 1995), this feature is also confirmed in our experiments. Many flowers shed from exposure to weather after opening.

Distribution and reserves

Fumaria vaillantii due to the fact that indicators such as reserves, productivity are largely dependent on the influence of climate conditions and anthropogenic factors, their reserves are real, real, quantitative and qualitative for time and area indicators. The main reasons for this are fallow land (zalez), dry land that has been plowed and rested, turning into arable land in the second year, or rainfall, and if ephemerals grow, the number and quality indicators of the described areas will inevitably change. The dry mass of plants is the raw material for this plant.

For example, if the yield of plants grown on 24 hectares of land in Zakhiralari B'ostonliq district is 86 kg/ha, it is possible to collect 2.1 tons of dry mass from it. In addition, in the remaining districts of Tashkent region and Kashkadarya region, a total of 11.3 t was found, 4.5 t. It is possible to collect 2.3 tons of dry raw materials from Jizzakh region and 1.2 tons from Syrdarya region. (Karshiboyeva, 2002)

It can be seen from the above information that the stock of *Fumaria L.* species can collect 19.3 tons of raw materials from 222 hectares of land in Uzbekistan. Up to 80-105 bush plants can be found on 1 m² of the above-mentioned areas, from which 2500-3000 kg of wet and 250-300 kg of dry raw materials can be collected per hectare.

Borisova, Shreterlar (1966) "Metodicheskie ukazaniya po geobotanicheskomu obsledovaniyu estestvennykh kormovykh ugodiy Uzbekistana" (1980) manuals were used to calculate the productivity of Shotara orchards, the productivity of the above-ground part (stem, leaf, generative organs), the mowing field and model bushes. It is planned according to the seasons of the year and altitude stages to be carried out in the field. Determining the productivity of shotara in plant communities in deserts and hills mainly in 2 seasons: spring and autumn; and in the upper hill, mountain and pasture stages, it is carried out only once in late spring and early summer. Productivity was determined separately for each species and separately for the plant community.

Productivity of each species, including shotara, depends on its community density (Sp, Sp³), plant height, branching, and other morphological characteristics. Productivity of ephemeral plants, including shotara, was determined using methods (form #2). 2=25 and 2=50m distance is taken for desert lands.

At this time, plants are cut, leaving 2-3 cm above the base. When determining the yield of Shotara (form No. 8), the following works are performed:- 3-5 1 m² calculation plots were allocated from the area (10 x 10 m) where the geobotanical imaging work is being carried out. Average density is calculated based on the fact that the plants of these plots have different densities (Sp¹-Sp³). For the experiment, the height of 10 plants and the dry weight of 20 plants were measured. The average height of Shotara is 15 cm, the dry weight of 20 bushes is 2 g. If 1 m² = 102 shotaras: 20 shoots shotara 2 gr. 102 tupi-X gr.

$$X = 2 \times 102 / 20 = 10.02 \text{ g/m}^2$$

So, on 1 hectare of pasture land, the productivity of only the shotara plant is equal to 102 kg or 1.02 centners of dry mass per hectare. NA Borisova and AI Schroeter (1966) when working in the method of model bushes, 2 transects of 25 m² and 100 m² are selected, then they are counted in the ontogenesis periods of the plant (youth transition period, generative period), wet and dry weight was determined. As a result, the average yield in the transect is determined and then converted into hectares

CONCLUSION

1. Shotara (*Fumaria vaillantii* Loisel), a member of the family of shotaras, contains the drug "Protopin hydrochloride" and is used in the pharmaceutical industry for liver diseases. Therefore, the bioecology of this species is being studied.
2. Chemical composition. Shotara contains organic acid, phenol, alkaloids 0.2-0.6%, spices 2.9%, tar 4.7%, vitamins C and K. The taste is peculiarly bitter.
3. . Many flowers shed from exposure to weather after opening. The average yield of seeds was 60% in the 1st experimental field, 56% in the 2nd-3rd experimental fields, and 53% in the 4th field.
4. If the yield of plants grown on 24 hectares of land in Bostonliq district is 86 kg/ha, it is possible to collect 2.1 tons of dry mass from it. In addition, in the remaining districts of Tashkent region, Kashkadarya region, a total of 11.3 t, 4.5 t . It is possible to collect 2.3 tons of dry raw materials from Jizzakh region and 1.2 tons from Syrdarya region.
5. , it was determined that the reserve of *Fumaria* L. species from 222 hectares of land in Uzbekistan will collect 19.3 tons of raw materials

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