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FLOWERING BIOLOGY FUMARIA VAILLANTII LOISEL.-DYMYANKI

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ABSTRACT: Biology of flowering F. vaillantii Loisel. – dymyanki. Seasonal and circadian biology of flowering, seed production. Dymyanki blooms in the afternoon. By studying the time bloom 12 – 16 hours.

KEYWORDS: dymyanki, daily flowering, seasonal flowering, seed productivity, medicinal, spice.

INTRODUCTION: The role of medicinal plants in the treatment of liver and heart diseases is enormous. Therefore, one of the main tasks of scientists is to find new medicinal plants and use them in the prevention of various diseases.

In order to produce Protopine Hydrochloride on an industrial scale, it is necessary to identify stable, reliable natural raw material reserves of Vayat shotara, which is its main raw material, and to study its bioecological properties, to find solutions to current problems.

The main results and findings

Shotara - Fumaria vaillantii Loisel. An annual, spring ephemeral plant belonging to the family Shotaradosh. When we observed the flowering biology of the shotara plant in the Turkestan mountain range, it was observed that its vegetation lasted 32 days and the flowering season lasted 22 days.

Seasonal flowering rhythm. The opening of the flowers is observed from the beginning of April to the 1st decade of May. The flowers in a bunch start at the base of the stem and work upwards, acropitally. The buds that need to be opened the next day are much larger than the others (2mm to 6mm). As the plant grows, the length of the buds increases. If the initial lump is 1 cm, it will be 2 cm after 6 days. The phase of seasonal flowering (13.04.13-4.05) is observed in F. vaillanti, with 25-28 flowers on the most flowering days (22.04-24.04) and 35-40 flowers on the most flowering days (13.04-16.04). opening was observed. In the fertilized lands of Zaamin district, the flowering of plants started at 14.04 and lasted until 16.05. The maximum number of flowering days ranged from 24.04 to 2.05, taking into account 20-25 flowers per hour.

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1 flower opens for 3 days and then begins to bear fruit. The total opening of the flowers in each bud lasts 6 days, and the previously opened flowers begin to bear fruit in a row from the bottom of the bud to the top.

Thus, it was found that the flowering period in experimental fields lasts 22 days in F.vaillantii.

The rhythm of daily flowering. The flowering process is followed by the beginning of flowering, mass flowering and the end of flowering. In F. vaillantii, the daily flowering period is observed on April 18, the mass flowering on April 28, and the last flowering period on May 4, 2013 (Shotara). The flowers usually open from 8:00 a.m. to 6:00 p.m. The flowers bloom more in the open air and do not open on cloudy, rainy days, when the temperature is below 15-180C. In F. vaillantii, the presence of flowers called klestogam was studied. F.vaillantii In the initial phase of flowering on the 1st day (18.04) 103 flowers opened at 12-14 o'clock 24-36 (23.3-35.0%), (temperature 22-250C, humidity 48-51%, light 75000-80000 lux) in the last phase of flowering (4.05.13) 16 out of 50 flowers (at 14.00) opened 32.4% (temperature 340C, humidity 52%, light 80,000 lux). Thus, in F. vaillantii, the maximum number of flowers blooming per day is 12-14 hours, which is 35.0-37% of the total number of flowers blooming. Flowering has been shown to accelerate with increasing temperature.

The structure of the generative organs. Evidence for the structure and development of the vegetative and generative organs of fumaria is found in some literature.

The source studied was found to have specific morphological features of the species, along with general similarities in the flower structure, stems, fruits, and seeds of F. vaillantii. The inflorescences are simple, sparsely flowering, sparse, single. The stems of F. vailantii are short, relatively dense, long-banded, ending in a monotelous main axil flower, with limited growth. The flowers are spirally arranged on the main axis and the flowers are 1.5-2.0 mm long. Each flower bud has 0.8-2.5mm long petals. In F. vaillanti, a bush grown in natural conditions was found to be well cultivated with 10-14 buds, and in fertilized experimental plots (Zaamin district) it was found that their number increased to 18-38. During the fertilization phase, the testicles become longer and thinner.

Morphologically, the flowers of Shotara are bisexual, zygomorphic, with 4 petals. The petals are arranged in two dioramas: the outer petals have a beak, the upper and lower petals. The inner side forms two petals. The two side petals in the inner circle are joined by their upper

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ends and have compressed beaks that are clearly visible at the back of the three petals. The upper petals are sunken in F. vaillantii the joint is dark red.

No separation of these two adherent lateral petals was observed during flowering, which can be understood as a mechanism of adaptation of the pollinator and the seed to protection from rain and other adverse natural conditions. Shotara and its ecophora were characterized by autogamy (cleistogamy) and xenogamy-type pollination.

The flowers of Shotara also contain nectar, which, according to N.S. Morozova (1980), located in the main part of the seed, nectars of the species Fumaria L. are complex and accumulate in the axillary growth of the outer petals. The presence of nectar glands indicates that the flowers are adapted to pollination by insects. The flowers of Shotara are mainly pollinated by bees, feathered bees and other parasites. The fruit of F. vaillantii is an unopened nut, the beak of the fruit of the ecoform is three-pointed.

Shotara flower is zygomorphic, the petals are arranged in two circles (inner 2 and outer 2). The junction of the two side petals of the shotara is dark red. During flowering, the two side petals do not separate, which prevents the pollen from being washed away by dew and rainwater.

Thus, the results of the study of the generative organs revealed that the upper part of the petals and the junction were dark red in F. vaillantii.

When we observed the root system, we found that it depends on the amount of water in the soil layer and the moisture in the soil. In the juvenile state of the ontogeny of plants grown in the experimental fields, the main axillary root reached 6 cm, and the first lateral roots appeared at a depth of 2-2.5 cm above the ground. The length of the lateral roots in F. vaillantii was found to increase to 1-2.5 cm. In the immature state, the main root grows to 9-9.5 cm in F. vaillantii. The lateral roots grow in a horizontal position of 5.6-6.0 cm in length. need to pay attention. This promotes the good development of the above-ground vegetative and generative organs of the plant.

Seed productivity. Each field plant, which is considered seed yield, has its own morphological characteristics. The number of bunches (fruits) and their length varies depending on the branching. In field 1, in F. vaillantii, 78 + 2.95, in field 2-3, 21 + 0.93-30 + 1.10 clusters appear, and in each cluster, 7-18 fruits are formed. In field 4, because the plant grows

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naturally, its stalks and clusters are slightly smaller, i.e., it produces 10 + 0.36 bunches, with 5-13 fruits in each bunch.

CONCLUSION. In Zaamin district, the total number of F. vaillantii ecoforms reached 9-14, and 5-13 fruits were born in each shingle. ; 94 + _3,61 flowers appeared in 4 squares. By the end of flowering, most of the flowers are slowly shedding, leaving 497 + 34.83 in 1 area of the remaining flowers; In areas 2-3, 146 + 8.53 -195 = 11.96; in area 4, 52 + 2.80, and in the ecoform of F. vaillantii, an average of 64 + 3.40 seeds were found. The number of ripe fruits and seeds is an important indicator and is a measure of true seed yield (EF). It is lower than potential productivity (PUM) (Ashurmetov et al. 1995), a feature that is confirmed in our experiments. Many flowers bloom when exposed to the weather. Seed yield averaged 60% in Experiment 1, 56% in Experimental 2-3, and 53% in Experiment 4.

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