

GENERATIVE REPRODUCTION OF MALE KISIL IN CULTURE IN NORTHEAST BELARUS

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At present, the task of reviving gardening in the Republic of Belarus is particularly relevant. But the main areas in industrial and amateur gardening are occupied by traditional fruit crops (apple, pear, cherry, etc.). At the same time, among the so-called, rare fruit crops, there are many species with rich sets of valuable biologically active substances. These crops include male dogwood (*Cornus mas* L.) [1, p. 124 – 126].

One of the difficult moments in the agro-technique of the male cornel is the reproduction of this culture. Therefore, the purpose of this research is to study the peculiarities of generative reproduction of male cornel in the conditions of culture in the north-east of the Republic of Belarus.

Material and methods. The objects of the study were seeds, seedlings, adult plants of male dogwood, grown on the territory of the Vitebsk Botanical Garden of the Vitebsk State University named after P.M. Masherov.

We carried out a study of generative reproduction of male dogwood with various methods of stratification.

The studies were performed in 2016–2018. the type of dormancy of the male kizil seeds and the methods for removing it were determined using the work of Nikolaeva M.G. [2].

Findings and their discussion. The fruits were fermented in 2016 for one month, then the pulp was washed, the seeds were dried and stored in the basement before sowing. Seeds were sown in boxes with soil in January 2017. The repetition of the experiment was 4 times, 80 seeds were used in each replicate. Seeds were sown at a distance of 2 cm, the distance between the rows was 3 cm.

The boxes with soil were exposed to open ground for the passage of natural stratification. In June 2017, masses of male dogwood began to appear. During the growing season, seedlings were taken care of (watering, loosening, weeding).

In the spring of 2018, the male dogwood seedlings were removed from the boxes, the biometric indicators were measured and measured (the total length of the plant, the length of the shoot, the length of the main root were measured, and the number of vegetative buds was counted). Then the male dogwood seedlings were planted in rows in rows. The distance between the rows of 25 cm, between plants in a row – 20 cm.

Control – seeds of male dogwood, without first collecting the fruit.

It is known that seed germination is one of the main indicators of seed sowing qualities. The germination of male dogwood seeds was determined in June 2017 by counting seedlings.

We found that the field germination of cornel seeds from preliminarily fermented fruits amounted to $78.25 \pm 4.5\%$ (table). The control sowing of seeds from unfermented fruits showed a germination rate of $4.1 \pm 0.02\%$, which is 14 times lower than in the experimental crops. This figure is alarming and requires further checks.

Table

Germination of seeds of male dogwood

Seed germination, %	
Control	Experience
$4,1 \pm 0,02,$	$78,25 \pm 4,5$

In April 2018, we conducted biometric studies of one-year male dogwood seedlings. Measured (total plant length, shoot length, length of the main root, the number of vegetative buds was counted).

We found that the total length of an annual plant was 22.33 ± 0.59 cm, the length of the shoot was 10.29 ± 0.35 cm, the length of the main root was 12.04 ± 0.35 cm, the number of vegetative buds – 2.99 ± 0.09 cm.

Since there are few control plants, we do not present biometric data, because the indicators are not statistically reliable because of a small sample.

Conclusion. Thus, studies have shown that fermentation of male cornel fruit is a promising method of scaffolding, since a significant difference in seed germination is shown, which made it possible to obtain a sufficiently large number of plants.

Seeds of male dogwood feel good, grow, develop under the conditions of the Vitebsk Botanical Garden of the Voronezh State University named after P.M. Masherova.

Reference list:

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2. Николаева, М.Г. Справочник по проращиванию покоящихся семян / М.Г. Николаева, М.В. Разумова, В.Н. Гладкова. – Л.: Наука, 1985. – 347с.

COMPARISON OF CATALASE ACTIVITY IN TISSUES OF THE PULMONARY FRESHWATER MOLUSKS THAT HAVE INHABITED IN NATURAL RESERVOIRS

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Currently, it is relevant to assess the status of aquatic ecosystems, due to an increase in the level of anthropogenic pressure. The widespread use of natural water bodies in industry and agriculture, the development of domestic water