



DOGWOOD “CORNUS MAS.L” - VERY ANCIENT CULTURE PLANT

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ANNOTATION

Dogwood - the oldest, but, unfortunately, almost forgotten southern fruit plant. Archaeologists have found its bones during excavations of settlements belonging to the Neolithic period. It got its name for the red color of the fruit, which means red in Turkic. It may be designated by any of two specific names: dogwood real and male.

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Dogwood is cultivated in many European countries, but there are no special plantations of it. In amateur gardening, it is common in Italy, France, Poland, the Czech Republic, Slovakia, and Spain. Remember the revelations of Sancho (“Don Quixote” by M. Cervantes) about how dogwood, along with acorns, brought food to the noble knight Don Quixote and his faithful squire SanchoPanza. It happened on the outskirts of Kyiv - on Kurenevka, Korchevaty. There is not a single plantation of dogwood in the CIS countries, and they are not available in European countries. In Russia, single dogwood trees (usually large-fruited forms), and then only occasionally, can be found in family gardens in the North Caucasus and even less often in the Lower Volga region.

Medicines, which are taken from fruits and leaves of dogwood are used as astringents and disinfectants, selectively acting even on the dysentery bacillus, the causative agents of typhoid. According to A.I. Blaze’s data (2000), dogwood is used for rheumatism, colds, fever and skin diseases. This plant is used in ornamental gardening, when creating hedges, as it has beautiful yellow inflorescences, bright, often red fruits; as a soil strengthening and anti-erosion plant; for tanning and coloring leather; like a spring honey plant, and its wood for art crafts. Dogwood has been used since the Neolithic period. The reserves of dogwood are constantly decreasing, which makes it necessary to introduce it into industrial production. Despite the benefits of this crop, there are no industrial

plantations in Uzbekistan, and it is grown only in country houses and household plots. Dogwood grows in mountain forests, on the edges and in thickets of other shrubs, rising to a height of 1500 m in places of its natural growth. It grows in the form of a multi-stemmed shrub up to 4-6 m high or a tree with a spreading crown up to 8 m high. In the first years of life characterized by slow progress. Its life expectancy can be over 100 years in natural conditions and in culture.

Dogwood belongs to early flowering plants. Among fruit trees, it blooms one of the very first, when the average daily temperature reaches 6 ... 11 ° C, in places of natural growth and distribution - in late March - early April, in our country - in mid-late April, sometimes in early May, before the leaves bloom. Dogwood is characterized by a different degree of development of flowers in the inflorescence, so flowering is prolonged for almost a month.



Fig. 1. Cornus mas.L - flowers

When it is a sudden onset of cold weather, the flowers shrivel up and hold on until it becomes constant heat when the flowering of plants happens non-stop for 12-15 days. For this reason, during spring frosts, a significant part of the flowers is preserved without damage. Dogwood bears fruit annually and abundantly. Often up to fifty buckets of fruits are harvested from adult

dogwood trees. The period from the end of flowering to the beginning of fruit ripening lasts about 110-120 days, which we mainly have in mid-late September. The total duration of the growing season for dogwood is 192-196 days, and in years with very cold and short periods, its shoots do not have time to ripen before the cold weather.



Fig. 2. Cornus mas.L - leaves

Dogwood is a fairly frost-resistant plant; when the shoots ripen, it tolerates temperature drops to $-30 \dots -32 \text{ }^{\circ}\text{C}$. At the same time, some forms can withstand frosts down to $-35 \text{ }^{\circ}\text{C}$ and somewhat lower. However, winter thaws and the early onset of spring with the return of cold weather have a negative effect on it, which is associated with the inability of the plant to restore winter hardiness to its former high value after thaws. This affects both the growth and fruiting of the dogwood. In the period of fruiting, rain and fog during flowering also have a very unfavorable effect. Dogwood forms a powerful root system, lying at a depth of 20-120 cm from the soil surface. The vertical root is weakly expressed, deepens into the soil by 80-100 cm, but the horizontal roots are long. They are well branched and form a thick lobe.

The main part of the skeletal roots is located at a depth of 10-60 cm. Dogwood grows on any soil, but bears fruit abundantly on calcareous soils with a sufficient content of manganese. The powerful cornelian root system, which is concentrated in the upper soil horizon, contributes to the use of even slight rainfall, so it belongs to fairly drought-resistant plants. However, it still prefers moderately moist soils and lacks moisture, especially with a large crop. During a long dry period, in such cases, its leaves curl, sometimes the fruits dry out, and fruit buds may not develop. In order to facilitate the bending of stems and branches to the ground, a constant systematic replacement of very thick old stems with thinner young ones can be practiced. Fruits of dogwood are mainly harvested from wild trees, which are still quite numerous in the

Caucasus, Western Ukraine and especially in the Crimea. If in the conditions of the South, where there are so many beautiful garden crops, people waste time collecting and processing wild-growing dogwood fruits, then these fruits are especially appreciated. Fruits of dogwood are attractive with sweet-sour taste, pleasant aroma, original cylindrical, sometimes spherical or pear-shaped shape, bright red, rarely pink color. They are rich in sugars

(and what is important - easily digestible glucose and fructose), organic acids, which are so important for maintaining normal blood pressure, active compounds - catechins, anthocyanins, flavonols. Dogwood has a lot of pectin, which is especially valuable for our health now, and an unusually high content of vitamin C - up to 120 mg per 100 g of fruit (some varieties have more), whereas other southern crops of this vitamin are usually not sufficient.



Fig. 3. Cornus mas.L - General view of the fruit

In Azerbaijan, Armenia and Georgia, a delicacy, “lavash”, has long been prepared from ripe cornelian fruits. The fruits for making such lavash are freed from stones, the pulp is boiled until a thick homogeneous mass is obtained, which is then thinly rolled out on clean planed boards and dried in the open air away from dusty places. Lavash is a concentrate containing all the nutrients that make up the fruit. In a dry room, it is

kept for a long time. Dried dogwood fruits can be stored in a dry form for decades. They are an indispensable seasoning for meat and fish dishes.

For medicinal purposes, fruits, leaves, shoots, bark, roots of dogwood are used. According to research, the fruits have antiscorbutic, antidiabetic, antipyretic, anti-inflammatory, bactericidal, antimalarial,



bile- and diuretic, tonic effects. They treat gastrointestinal diseases, dysentery, typhoid, anemia. They help with measles, flu, scarlet fever, rickets, tonsillitis, diarrhea, tuberculosis, cirrhosis of the liver and other diseases. For example, cakes of dogwood lavash saved the entire Russian army from scurvy during the Caucasian War. Any hemorrhoids with many years of experience are cured with dogwood bones in a week and so on.

Cornel berries of dogwood are often taken raw. They taste a little tart and knit, sour, but after frosting, like the fruits of mountain ash, they become very juicy and sweet. Phytoncides in their composition kill some types of bacteria living in any organism. The increased content of vitamins such as A and C gives the body additional immunity to fight viral infections. The other ways of processing fruits are its boiling or infusion. In this way, various infusions, compotes, liqueurs, kissels, decoctions are obtained, using which the body can be charged with vitamins, acids, oils. In order to obtain and preserve vitamins and microelements in their original form, dogwood berries can simply be thoroughly dried and consumed in crushed form, in the form of dried fruits or pickles even. By the way, the ancient Greeks and Romans

actively used this method, making something like olives out of dogwood.

The care of dogwood plant begins in spring and consists in loosening row spacings and very shallow loosening under young bushes, removing weeds, and, if necessary, watering and fertilizing. Of great importance for the superficial root system of dogwood, with its strong approach to the soil surface in older plants, is the mulching of tree trunks. In this case, loosening of the trunk circles should not be carried out. Any organic materials are used as mulch - grass, straw, hay and others. In the first half of summer, in order to enhance plant growth and better fruit set, liquid nitrogen fertilizing with slurry, mullein, and bird droppings works well. In my practice, liquid dressings with infusion of grass have shown themselves well. In the second half of summer, liquid fertilizing with phosphorus-potassium fertilizers can be used to complete growth more rapidly. However, it is quite challenging to propagate dogwood by seeds due to the difficulty of germination of its seeds, which have a very deep dormancy and have very dense seed coats. Seeds sown in autumn partially germinate in the second, and the bulk - in the third, and even fourth year. Pre-sowing preparation of seeds involves their long-term stratification.



In addition to its berries directly, dogwood is famous for the content of useful components in the seeds, flowers, leaves and even the bark of this amazing shrub. The leaves and flowers give the accumulated active additives best of all when infused and steamed. Infusions of twigs or leaves are shown to be used in the form of a plentiful drink for patients to increase appetite and immunity.

Moreover, the most surprising thing is that the phytoncides secreted by the shrub itself are able to enrich the air around adequately and scare some insects.

Dogwood is a valuable fruit, medicinal, ornamental plant. The main biological features of the species: there is no periodicity in fruiting, biological productivity under favorable growing conditions is 25-00 kg per tree, depending on its age. The plants are practically not damaged by pests and diseases, do not require treatment with pesticides. The garden dogwood does not require any special agricultural technology. The varieties of selection of the National Botanical Garden are the basis for the creation of productive cost-effective farm and private dogwood gardens.

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